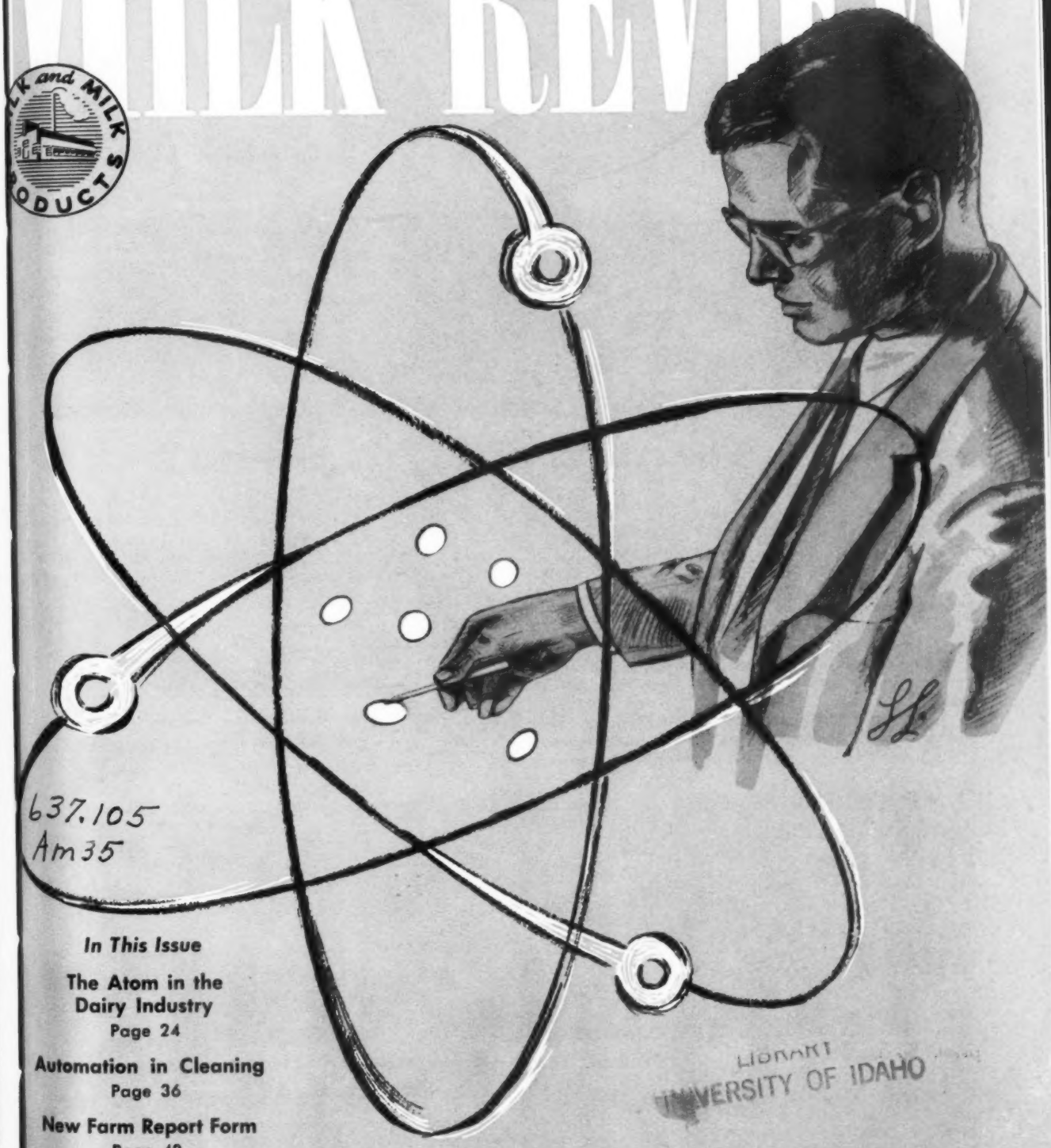
JUNE 1957

American MILK REVIEW



637.105
Am35

In This Issue

The Atom in the Dairy Industry
Page 24

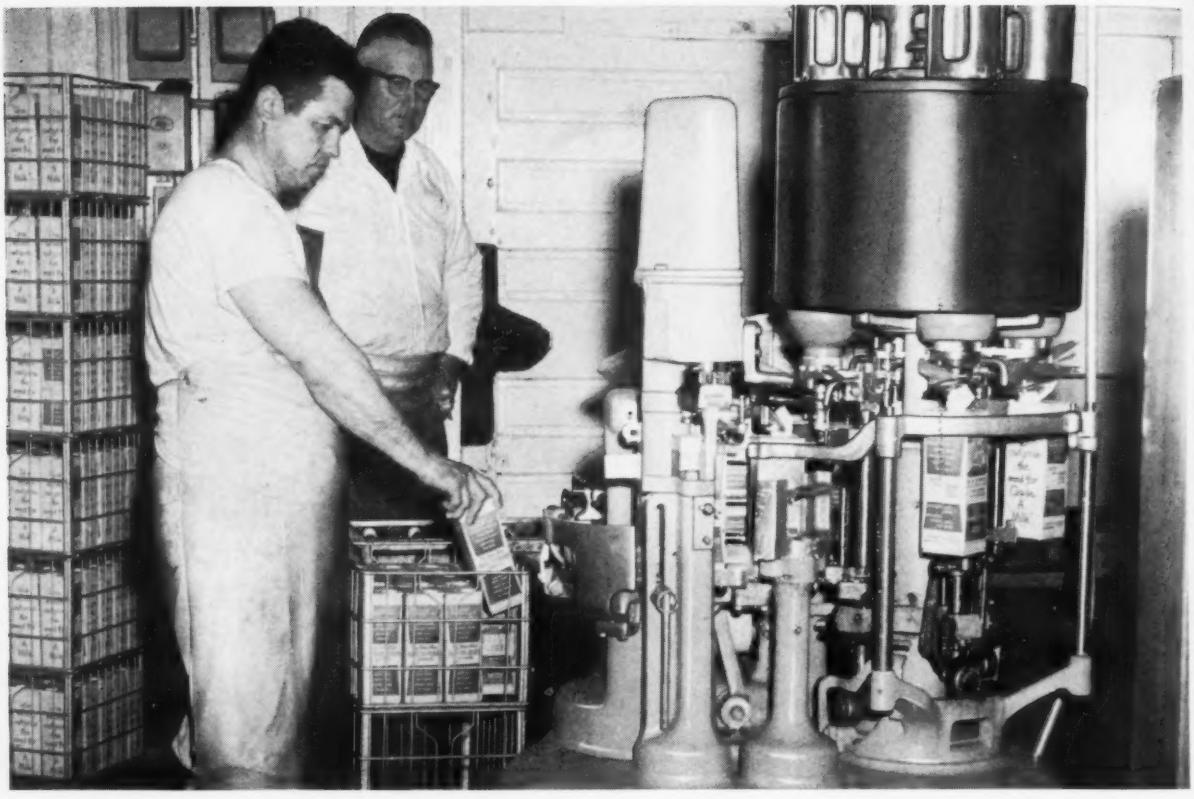
Automation in Cleaning
Page 36

New Farm Report Form
Page 48

LIBRARY
UNIVERSITY OF IDAHO

AN URNER-BARRY PUBLICATION

XUM



What's wrong with this picture?

The answer: There are too many men in it. One man is all you ever need with a Milwaukee Paper Filler to uncase empty cartons, fill and case up to 25 Canco quarts per minute. Change-over to run as fast as 40 pints, ⅓ pints and ½ pints per minute is speedy and simple, done without touching milk contact parts.

As Mr. E. R. DeWitt, of Beaver Creek Dairy, Sparta, Wisconsin, writes after he "stood in" and watched the operation above: **"We are running at a rate of 25 quarts per minute and one man does all the work. We have not had any leakers."**

Your operator, too, can handle this volume and still have time to do other filling room jobs — without stopping filler operations. Which is one reason why so many dairies find the Milwaukee Filler profitable, whether used as a production filler or as a by-product and short-run machine.

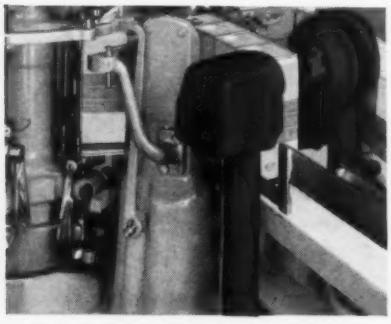
See your Cherry-Burrell Representative for full details, or write for literature.

CHERRY-BURRELL
CORPORATION

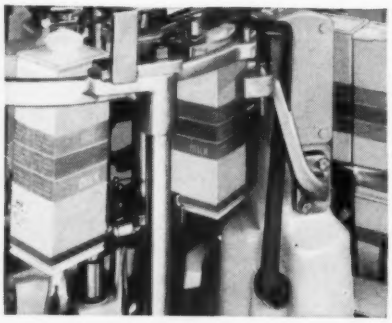
427 W. Randolph Street, Chicago 6, Ill.

Dairy • Food • Farm • Beverage • Brewing • Chemical • Equipment and Supplies

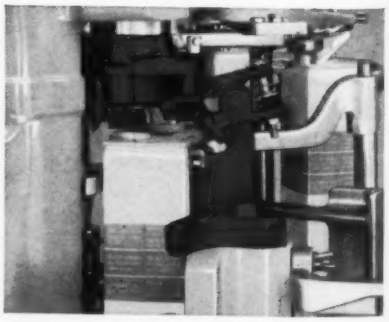
SALES AND SERVICE IN 58 CITIES — U.S. AND CANADA



Electric Eye Shutoff. Canco cartons on accumulative infeed conveyor break light beam to keep machine in continuous automatic operation. When last carton passes beam, filler automatically shuts off. Conveyor holds 30-second supply of cartons.



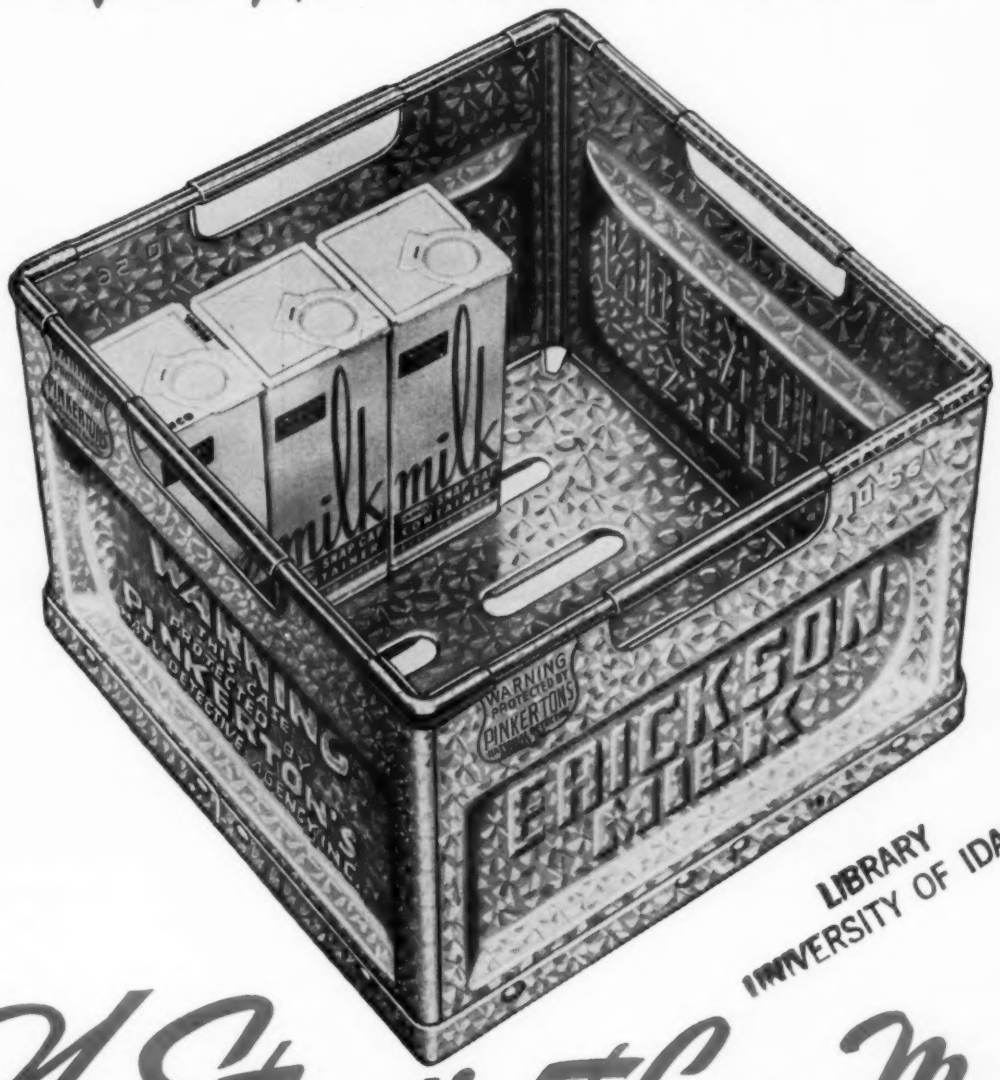
Detector Finger passes over carton to make sure cover is open and carton is in correct position to receive filling valve. If carton is unopened or incorrectly positioned, milk does not leave filling valve and the carton is rejected but not damaged.



Closing and Dating. Filled carton in position to be sealed. Pour-hole liquid-tight with cover flaps securely molded around carton's edges. Cartons dated or coded here, then fed automatically to accumulative discharge conveyor for quick pick-off.

American Milk Review — June, 1957. Published monthly by Urner-Barry Company at 92 Warren Street, New York. Domestic subscription $2.00 per year; Canada and Pan Amer. Union $3.00 per year; foreign $4.00 per year. Accepted as Controlled Circulation Publication at New York, N. Y.

"The Milk Saver"



LIBRARY
UNIVERSITY OF IDAHO

The Sturdiest Case Made

PROTECTED BY PINKERTON'S

Less replacement cases to buy -- a Lot Less

Manufactured and Sold Exclusively By:

C. E. Erickson Co., Inc. Des Moines, Iowa

Quality Products Since 1910

XUM

Each black dot on the map represents a dairy that has standardized on a 100% Pure-Pak operation

The trend is to standardization . . . simplification . . . ECONOMY!

Visit one of the 100% Pure-Pak equipped dairies near you and see the many advantages of packaging all your milk this modern way.

Only complete line of cartons:
Pure-Pak is the *only* paper milk carton that is available in all sizes from ½ pint through ½ gallon.

Only you know when the time is right for your dairy to consider "standardization." We do find, however, that the decision to expand the use of Pure-Pak in the interest of maximum plant efficiency and economy is the way more and more dairymen are thinking.

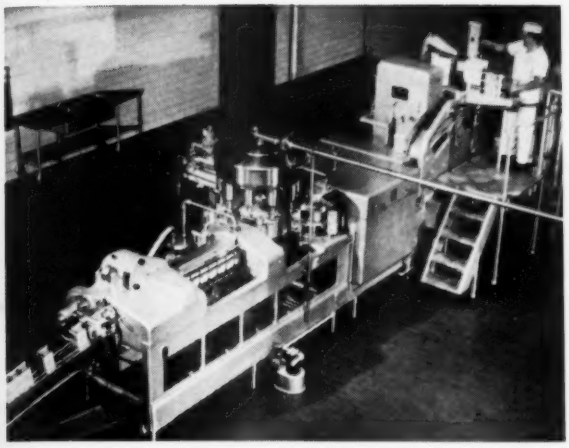
Pure-Pak is the milk packaging system with the extra benefits.

- **Best for plant efficiency . . . best on the routes!**
- **Superior machines made by a company that leads in precision manufacturing, supplying over 30 basic industries with precision machines and parts.**
- **PLUS—complete ONE-STOP supply service.**

If you are not already packaging all your milk this modern way—why not check to see how this change can benefit you.

20 million times a day, someone breaks the seal on a fresh Pure-Pak carton

Pure-Pak
© EX-CELL-O CORP. DETROIT, MICH.
YOUR PERSONAL MILK CONTAINER



Improved in-plant efficiency: Pure-Pak milk packaging operation is clean, sanitary, economical—allows you more efficient use of personnel.

Greater space savings: Since Pure-Pak carton blanks are stored flat, a case of 500 quart containers take no more space than one dozen quart glass bottles.

More driver benefits: Driver has no empties to handle, or load to shift. Lightweight Pure-Pak cartons save nearly a ton of lifting per day on 550 unit load.

Quicker identification: Grocers know that Pure-Pak is the consumer-preferred carton. Exclusive top printing and gable top make identification easy.

Greater consumer preference: Mothers appreciate the added safety of Pure-Pak's shatterproof container. Other benefits: disposable, no bottles to wash or return.

2 GREAT NEW PUBLIC-SERVICE MOTION PICTURES TO HELP BUILD YOUR MILK SALES

Use these dramatic, informative motion pictures to build prestige in *your* community. They're ideally suited for showings to school PTA, club and church groups, and for public-service TV programs.

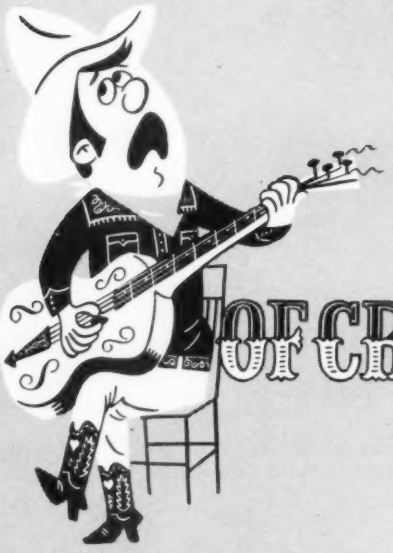
"THE NEW STORY OF MILK" This full color, 16 mm., 27-minute soundfilm, *made for your use*, shows today's swift, sanitary methods of milk handling.

"CRISIS" A 16 mm. documentary film tells how your dairy and local Civil Defense join forces to bring pure drinking water to your community in time of disaster.

FOR DETAILS ON BORROWING OR PURCHASING THESE FILMS WITH YOUR OWN NAME AS SPONSOR, WRITE PURE-PAK DIV., EX-CELL-O CORP., DETROIT 32, MICH.

XUM

THE BALLAD OF CREST 6S®



If your skim milk has a bluish cast–

Your cottage cheese is a mess ——

We can give you a quick solution–

Its name is Crest 6S ————————

Crest exclusive milk protein ————

For your fluid {milk / cream} success ————

Gives superior body and flavor ——

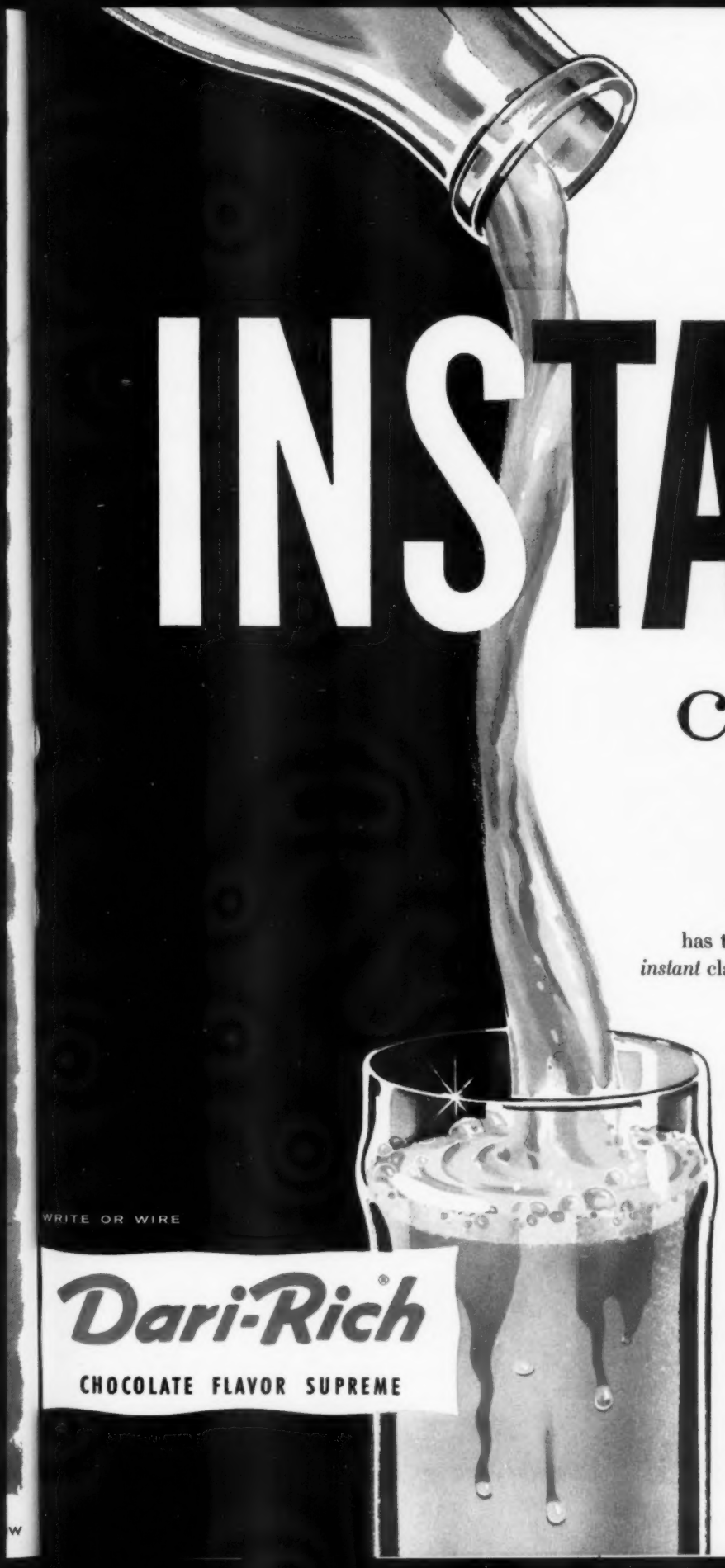
Its name is Crest 6S ————————

CREST FOODS CO.

ASHTON, ILLINOIS

WRITE

XUM



how INSTANT can you get?

DAIRY CHOCOLATE MILK
has the "instant" mixes licked on the *instant* claim . . . licked on *flavor* . . . licked on *freshness* and *convenience* . . . and backed up hard against the wall ON PRICE TO THE CONSUMER!

BUT NOBODY KNOWS THAT EXCEPT US!
DARI-RICH has launched a big campaign to tell Mrs. America.

WANT TO JOIN US IN THE BATTLE?

WRITE OR WIRE

Dari-Rich®
CHOCOLATE FLAVOR SUPREME

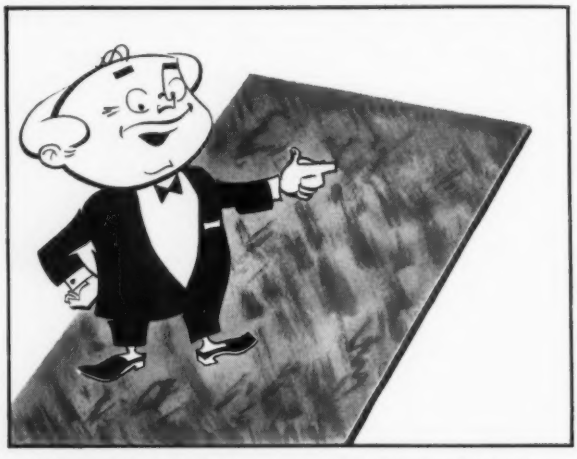
Bowey's INC.

679 Orleans St., Chicago 10, Ill.
771 Bedford Ave., Brooklyn 5, N.Y.
4368 District Blvd., Los Angeles 58, Calif.

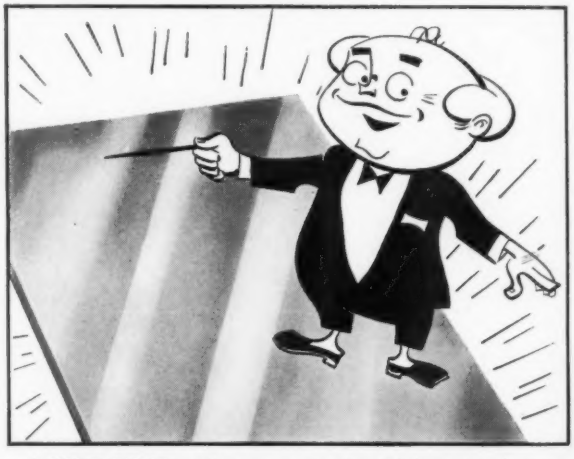
NOW! A nondestructive bactericide for dairy equipment!

1. **Corrosive germicides** pit and eat through metal—you might just as well beat up your equipment this way as to use them! But MULTI-CHLOR gives you safe, effective sanitizing!

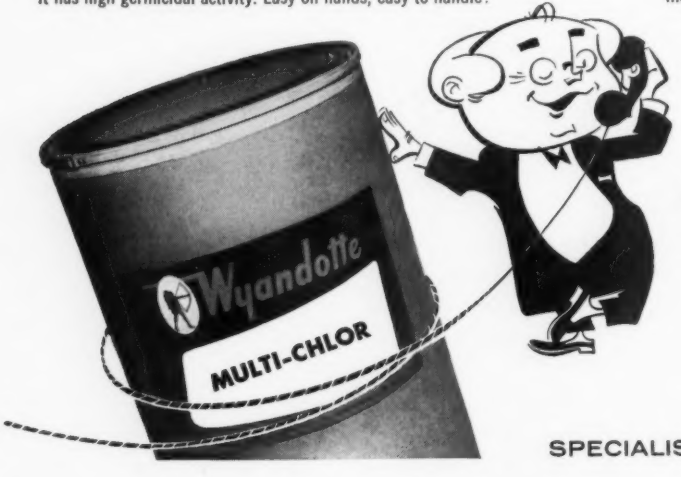
2. **MULTI-CHLOR protects valuable dairy equipment!** It will not contribute to or increase corrosion of stainless steel or other metals—helps keep your equipment looking like this!



3. **If your dairy equipment** is rusting and tarnishing like this, better switch to MULTI-CHLOR! Buffered to give controlled pH solutions, it has high germicidal activity. Easy on hands, easy to handle!



4. **MULTI-CHLOR solutions** are no more harmful than water alone. Yet, they retain high germicidal strength; destroy all odors, not merely mask them. Long storage life, too!



5. **Why not call** a Wyandotte representative today for full details? Wyandotte Chemicals Corporation, Wyandotte, Michigan. Also Los Nietos, California. Offices in principal cities.

Wyandotte
CHEMICALS
J. B. FORD DIVISION

SPECIALISTS IN DAIRY-CLEANING PRODUCTS

Give your Dairy Products that "take-me-home" look!

MOHAWK

REFRIGERATED-SHELF DAIRY CABINET

Dairy foods look fresh and colorful . . . attractive and appetizing . . . when displayed in the smartly-styled new Mohawk Dairy Case.

Designed and manufactured in our own plant, the Mohawk costs much less to buy than any other cabinet of comparable size and capacity.

Main compartment and two shelves provide total refrigerated area of 21.2 sq. ft. in Model C5 . . . 29.2 sq. ft. in the C7.

Model C5 provides 8.9 sq. ft. of unrefrigerated display space on top of case . . . 12.2 sq. ft. on Model C7.

Outside dimensions: Model C5 — 60" long x 34½" wide x 58" high . . . Model C7 — 82¼" long x 34½" wide x 58" high. Motor compressor covered by free 5-year warranty.

MOHAWK CABINET CO., INC., CHADWICKS, NEW YORK
Leading Manufacturer of Automatic Defrost Cabinets

Use Coupon To Order Mohawk Dairy Cases

MOHAWK CABINET CO., INC. Dept. A-657 Chadwicks, New York

Please enter our order for MOHAWK DAIRY CASES as follows:

Quantity .... Model C5 @ $437.00 ea. } Prices F.O.B.
Quantity .... Model C7 @ $525.00 ea. } Chadwicks, N. Y.

Delivery Date required ..... ☐ Check if convenient payments are desired.

☐ Send us complete information on the 4 Mohawk Hold-Over Cabinet Models.

Name .....

Firm Name .....

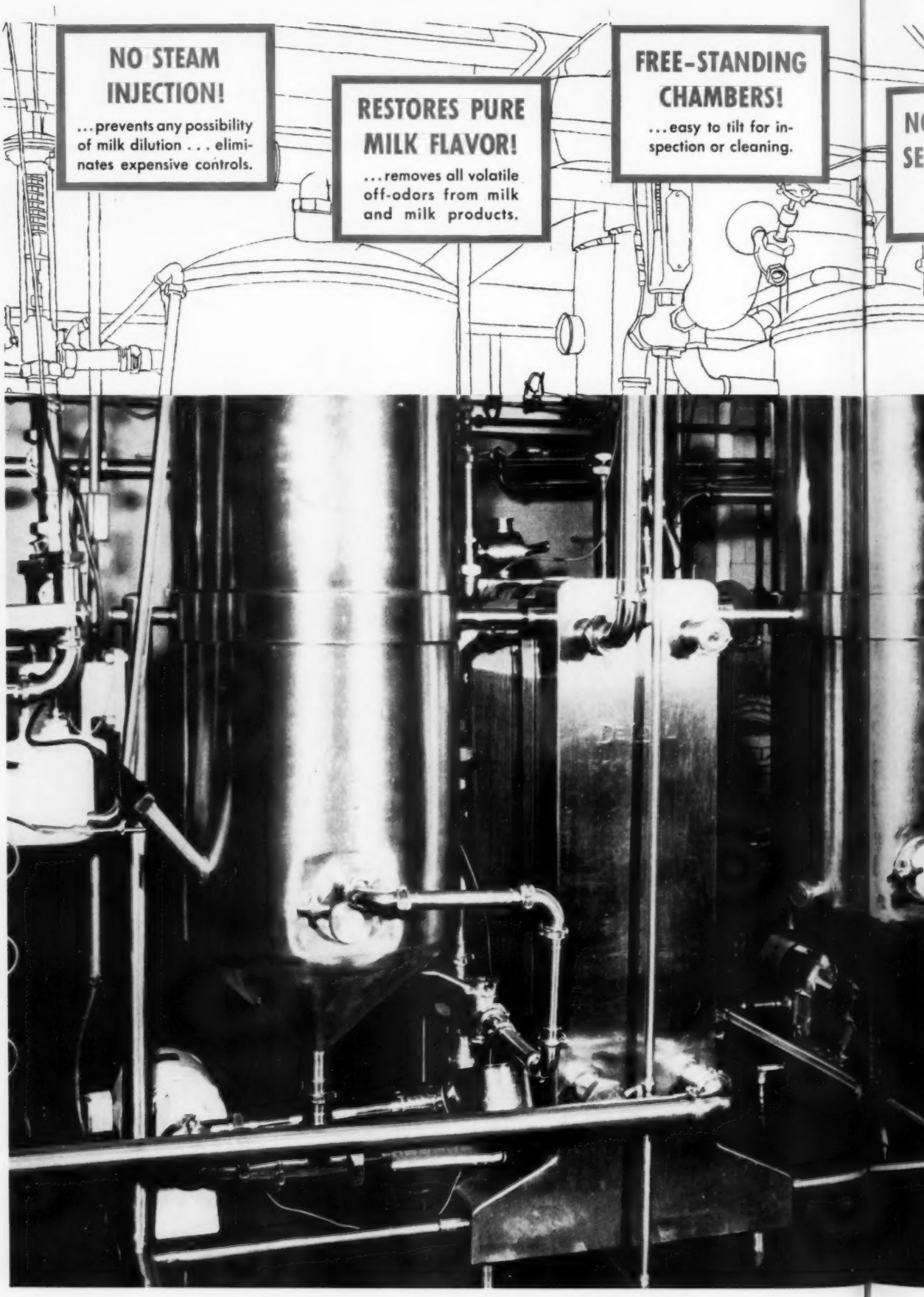
Street and No. .....

MOHAWK

HOLD-OVER CABINETS

TAP THE PROFITS WAITING FOR YOU IN THE BIG HOME DELIVERY MARKET

Equip your trucks with Mohawk Hold-Over Cabinets. Low price per unit . . only a nickel a day to operate. Four models available to fit most delivery trucks.


NO STEAM INJECTION!
...prevents any possibility of milk dilution . . . eliminates expensive controls.
RESTORES PURE MILK FLAVOR!
...removes all volatile off-odors from milk and milk products.
FREE-STANDING CHAMBERS!
...easy to tilt for inspection or cleaning.

XUM

WHAT HAPPENS IN A DE LAVAL "VACU-THERM"?

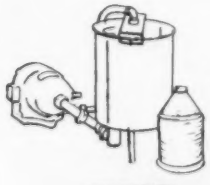
...PROFITS!

Now you can eliminate loss through off-flavor and feed odors in milk or milk products . . . no matter what the size of your plant! The new De Laval "Vacu-Therm" restores pure milk flavor, thoroughly removes off-flavors by the effective use of heat and vacuum. Uniquely designed, the De Laval "Vacu-Therm" prevents milk dilution, provides an opportunity to insure against product losses. In addition, the De Laval "Vacu-Therm" can be completely cleaned by circulation without disassembly. Get all the profit-making facts about the new De Laval "Vacu-Therm" . . . today!

DE LAVAL
SEPARATOR COMPANY

THE DE LAVAL SEPARATOR COMPANY Poughkeepsie, New York • 427 Randolph St., Chicago 6
DE LAVAL PACIFIC CO. 201 E. Millbrae Ave., Millbrae, Calif.

ALL-STAINLESS 392-A "AIR-TIGHT"
Separator . . . smart in appearance, rugged in construction, unmatched in operation.



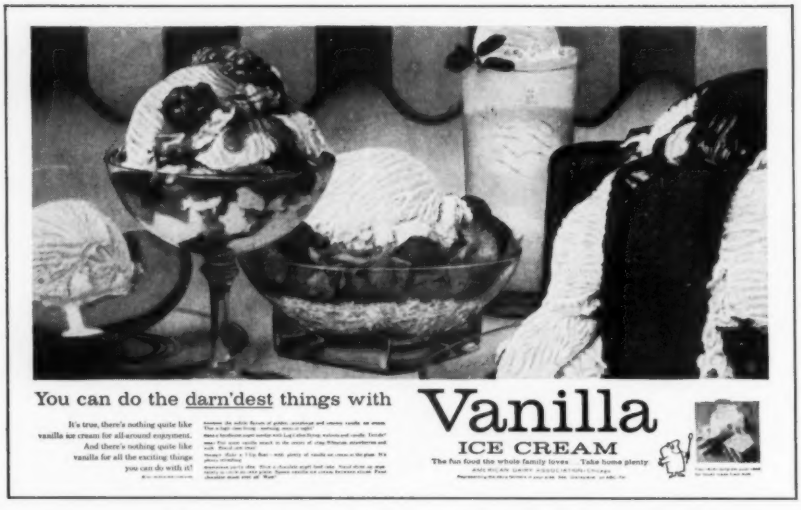
DISC-WASHER
. . . saves time, work, money . . . no disc disassembly . . . no danger of disc damage.

"FOAM-MASTER" CAN-FILLER
. . . fills 40-quart can in 20 seconds . . . no foaming, no product loss.

AMERICAN DAIRY ASSOCIATION

Campaign Plans FOR JULY

Ice Cream, Butter and Milk in the News!



ICE CREAM. Cool reminder for Vanilla lovers (and that takes in practically everyone). This 2-page, 4-color spread appears in July 9 Look plus a page in full color in Sunday newspapers July 7.

BUTTER. (Right) Real butter makes fresh roasting ears taste even better. We're telling homemakers with this 4-color page featuring the "flavor of real butter" in July Ladies' Home Journal—read by more than 5 million women.

MILK. It's a great month to sell the cool refreshment of milk. And that's what we're doing with this color page in July Reader's Digest and 2 pages in July 8 Life.

You never outgrow your need for foods made from milk

© 1957 AMERICAN DAIRY ASSOCIATION

A BIG MONTH FOR DISNEYLAND, TOO. Three commercials on Vanilla Ice Cream, three commercials on milk, and two commercials on real butter. The audience—over 30 million persons for each commercial.

Selling more dairy foods to more Americans

AMERICAN DAIRY ASSOCIATION • Chicago

Producer response proves

NEW DIMENSION DESIGN OPENS NEW ERA IN BULK COOLING!

FROM ALL PARTS OF THE COUNTRY, a flood of inquiries is proving again and again the interest of dairy farmers everywhere in Wilson's exciting *New Dimension* bulk coolers. Never, since the introduction of bulk cooling itself, has there been so much interest generated so quickly in a new development in dairy farming.

Proving that the application of Wilson's unique combination of modern industrial design, topnotch refrigeration know-how, and twenty-five years of milkhouse refrigeration experience pays off, these inquiries indicate a sample of the interest *New Dimension* coolers are developing in your area.

To help you help your producers get information they want about these new designs, Wilson is prepared to rush data to you immediately. Why not fill out the coupon below today—or ask the nearest Wilson dealer to drop in and tell you the full *New Dimension* story.

Wilson Refrigeration, Inc., Dept. AM-3, Smyrna, Delaware.
Rush information about ☐ *New Dimension* bulk coolers ☐ Wilson can coolers.

Name_____

Title_____

Address_____

City_____ State_____

ONLY FROM WILSON DO PRODUCERS GET ISOLATED ICE BANK COOLING

IN ADDITION TO EXCITING NEW DIMENSION DESIGN, producers want information about Wilson because they want and need the solid advantages and safety available only through Wilson's Isolated Ice Bank and Drop-In Refrigeration Unit. Advantages like greater safety for milk; less milkstone formation (thanks to moist walls); power failure protection; low-cost, simplified maintenance. It's a story you'll want to know about—and Wilson will be glad to send you complete details.

ALSO AVAILABLE: a complete line of Wilson Can Coolers, both front-opening and immersion types.

WILSON REFRIGERATION, Inc.
Smyrna, Delaware
A Division of Tyler Refrigeration Corporation

Honest Injun!

HW Soaker Alkali cleans 'em in the hardest water

Cherokee's municipal water supply measures a rock-smashing 120 grains — probably the hardest in the U. S.

If you're stuck with scale formation and filmy bottles, and your water seems this hard, HW Soaker Alkali® will make your bottles come clean!

This DIAMOND compound contains caustic soda, complex phosphates and wetting agents. You add nothing. No water softeners or other additives. HW Soaker completely softens hard water, rinses freely and controls scale formation. You'll notice, too, it gradually removes the scale deposits on your machine.

HW Soaker Alkali reduces alkali consumption and carry-over. It lubricates all moving parts exposed to the soaker solution. Best of all, you turn out sparkling, spotless, film-free bottles.

Your DIAMOND Representative can recommend the right bottle-washing compounds and equipment cleaners for your operation. Get in touch with him now — or order from one of the distributors listed below. DIAMOND ALKALI COMPANY, 300 Union Commerce Bldg., Cleveland 14, Ohio.

Cherry - Burrell Corp., Meyer - Blanke Co., The Hurley Co., Miller Machinery & Supply Co., Monroe Food Machinery, Inc., John Pico Machinery & Supplies Co.

DIAMOND CHEMICALS **Diamond Chemicals**

CONOCO DAIRY WAXES

Conoco Super Cote WITH POLYETHYLENE

Smart, satin finish gives you a smooth, even coating.

Accent on strength. Exceptionally tough and strong . . . offers much greater resistance to scuffing and marring . . . keeps cartons straighter by imparting additional strength to the paperboard.

Cuts wax consumption substantially. Coats more cartons per pound of wax with increases running as high as 21%.

ALSO RECOMMENDED for buttermilk and orange drink cartons

Conoco Dairy Wax

Rapid saturation. Quickly and thoroughly penetrates the carton.

Toughens up and dresses up your containers. Actually enhances their strength. Cartons look good—and stay that way.

Uniformly effective. No letdown in wax strength and wax coating. Count on Conoco Dairy Wax for unvarying high quality.

MADE SPECIFICALLY FOR PURE-PAK OPERATIONS

manufactured by
CONTINENTAL OIL COMPANY

CONOCO

distributed by
PURE-PAK DIVISION
EX-CELL-O CORPORATION
1300 Oakman Blvd., Detroit 32, Michigan

©1957, Continental Oil Co.

New

SEAL-O-MATIC
FULLY AUTOMATIC
FILLER

EXCLUSIVE FEATURES
mean larger profits for you!

RAPID CHANGEOVER
No tools needed . . . loosen thumbscrews, turn over, raise or lower bases to calibrations on back plate which have been custom marked to the sizes of your particular formed cartons. Very few minutes are required to change to any size, ½ gallon to ½ pint.

PRODUCT AND MECHANISM PROTECTION
Large stainless steel hoods keep machinery clean. Inner nozzle-cover keeps milk and cartons contamination free, Seal-O-Matic fulfills all Local, State, and U. S. Board of Health requirements.

IN GOES ONE—OUT COMES ONE
One position operation synchronized to the speed of the operator . . . switch control for the fully automatic processes is tripped by the insertion of the empty carton . . . no wasteful pile-ups. An efficient operator can fill up to 350 gallons per hour, any size carton.

HYDRAULIC STAPLER
No springs to jam. Single staples pitcher pour cartons.

LOCKING ADJUSTABLE CASTORS
Overall machine dimensions. 24" wide, 48" long, 62" high.

MOISTURE-FREE BONDING SURFACES
Milk cannot reach sealing surfaces, a guaranteed leakproof closure every time.

HEAT SEAL UNIT
Thermostatically controlled for temperatures of 0-550 F. for adjustments between the varying melting points of Polyethylene and wax.

GUARANTEED LEAKPROOF . . .
THE GREATEST ADVANCE IN
MILK PACKAGING

Liberal Trade-in Allowance on Your Present Filler

Contact Us for Territory Rights

PURITY PACK CORP.

P. O. Box 430
WOODSTOCK ILLINOIS
Telephone: Woodstock 131

Contact Any of Our Jobbers

Brooks Supply Co., P. O. Drawer CC, West Monroe, La.
Brooks Supply Co., P. O. Box No. 1205, Joplin, Mo.
Brooks Supply Co., 1700 E. Chestnut St., Springfield, Mo.
Brooks Supply Co., P. O. Box No. 2446 West, Jackson, Miss.
Brooks Supply Co., 351 W. Josephine, San Antonio, Texas.
Brooks Supply Co., 415 S. Buckner, Dallas, Texas.
Sewell & Simpson Dairy Supply Co., 273 Oakland Ave., S. E., Atlanta, Ga.
Northwestern Dairy Supply, 815 Center Ave., Moorhead, Minn.
Berwick Fabricating Co., 310 W. Front St., Berwick, Pa.
Crystal Perforating, Inc., Warsaw, Ind.
Bessire & Co., Inc., 6305 Kenjoy Drive, Louisville 14, Ky.
Dairy Service, Inc., 1936 W. 33rd Ave., Denver 11, Colo.

Mail this Coupon Today to Any of the Above Retail Jobbers

PURITY PACK CORP.
P. O. Box 430, Woodstock, Illinois.

Please send me, without obligation, complete information on the SEAL-O-MATIC FILLER.

NAME .....

ADDRESS .....

AMR

Now Hear This!

YOUNG AND HUNGRY

Dear Editor:

Received a card today from the *American Milk Review* as a preview announcing the latest views on the dairy industry. The editor's face was plastered all over the front of the card. Is that the latest view of him? What's he running for? Congress?

That view of the future of the small plant should be good even though it is probably a year late. The editor of your *"Review,"* when he was young and hungry, used to write fighting editorials and he would end with a fighting punch line such as "You've got to spike your flag to the mast and stand by it." But he was a young man then and that was probably a carry-over from his navy days. But now he has become old, fat, and prosperous and the results are what you might expect. Instead of the punch editorials we now get the old platitudes played to the tune of hearts and flowers. Dairy industry is a dynamic mechanism. The American economy will survive and the end result will be all for the best. Young dynamic men will push automation. That's all good sounding stuff providing there is anything left to push.

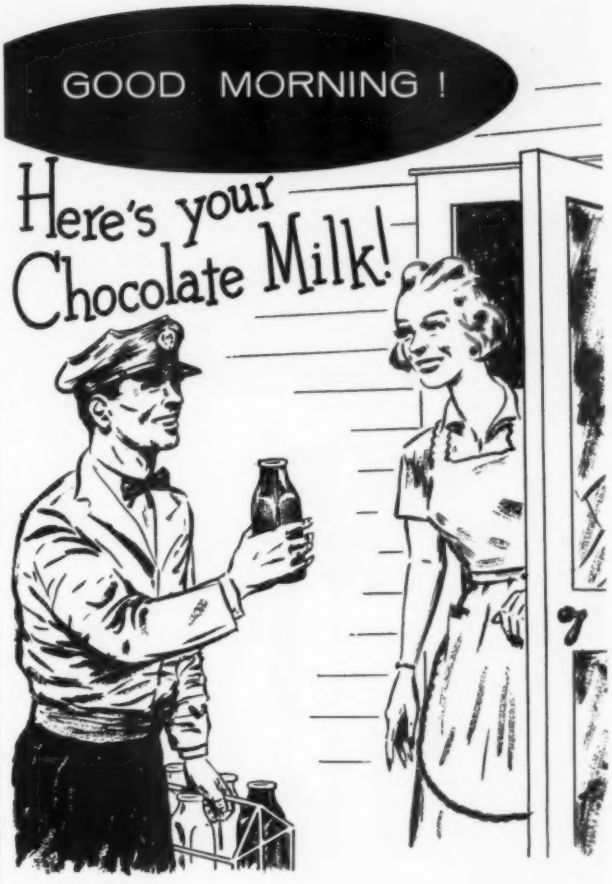
A year ago we wrote to the editor in our humble way regarding the Springfield (Massachusetts) situation. Like a reply from a Congressman we got a reply back, "Watch the next issue of the *'Review.'* Im going to open up with the heavy artillery on the situation." When the next issue came out he hadn't even used his water pistol. That was a young, hungry man's fight.

The advent of the cash and carry gallon jug stores in the Springfield market has raised particular cain. One of the old independent companies in Springfield sold out last week. Prepare for the deluge. In the end the big boys will control the market and that means that the cash and carry stores will be out too.

The Massachusetts Milk Control Board had the cash and carry dealer in court without much luck except to make him a hero and give him the kind of free advertising money can't buy. His lawyer has been elected Governor and the heat is really being put to the Control Board. Milk is down to 67 cents a gallon with a Class I price above $6.00. It ain't fun.

I'll admit that the independents in Springfield made a bad mistake. They didn't take the cash and carry stores seriously. They should have fought them on their own terms from the start, cash on the barrel head, no household delivery, no half pints of milk, cream, chocolate. No cottage cheese or sour cream. Tell the customer to "Go jump in a lake." Receive no school bids. Cash and carry would have withered on the vine.

This sounds all right in theory but in the meantime a lot of good, small dairies have gone down the drain. If this keeps up where are these young, aggres-



Good, wholesome chocolate dairy drinks are a traditional flavor favorite with children and grownups alike. For this reason there is eager response to the natural, smooth flavor and high quality of a chocolate drink made with Forbes Chocolate Flavor Powder.

HAVE *YOU* TRIED FORBES CHOCOLATE?

Industry-wide surveys show that a good chocolate dairy drink will actually increase milk sales. Take advantage of this EXTRA market and the more than 50 years experience Forbes has had in producing quality chocolate products — 30 years serving the dairy trade.

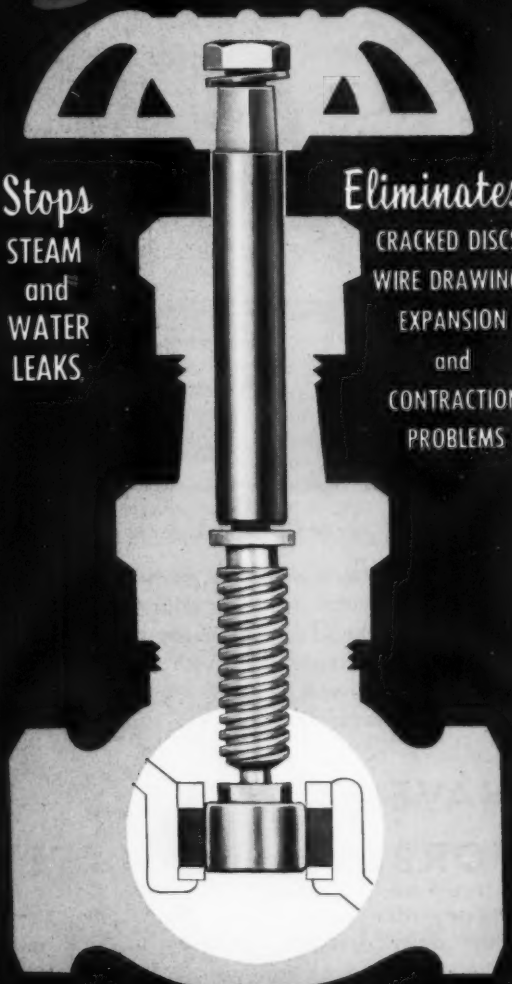
Write today for further information and a sample. You'll like it! It's so easy to use.

Forbes
The BENJAMIN P. FORBES CO.
2000 WEST 14th ST. • CLEVELAND 13, OHIO

Dairymen!

Here is a Valve Designed Exclusively for YOU!

by Strahman



Stops STEAM and WATER LEAKS

Eliminates CRACKED DISCS, WIRE DRAWING, EXPANSION and CONTRACTION PROBLEMS

A resilient sealing ring and stainless steel piston replace the metal seat or disc found in the conventional valve, the cause of most valve troubles. The Strahman Valve seals itself as a cork seals a bottle. In throttling, the erosive action of the elements passing through the valve cannot have any effect on the sealing surfaces.

Strahman Steam and Water Valves are made of Bronze construction, with Stainless Steel Stem and Piston, assuring long life.

Write direct for complete catalogue

STRAHMAN VALVES, INC.,
16 HUDSON STREET, NEW YORK 13, U.S.A.

sive, dynamos going to push their automatic buttons? Not in the big plants, that's for sure. By the time they let you push anything there you're an old man. Money is power not brains or initiative or a good product. Maybe we better forget the good fight. My kid is going to be a politician or a union leader.

So long until the editor irritates me again.

Connecticut

Bloody though our head may be, it is still unbowed. The colors still fly at the masthead. We hope, with the help of welcome prods such as this fiery, stimulating letter, to keep them there for a long time to come.

Do you fear the force of the wind? The slash of the rain?
Go face 'em and fight 'em. Be savage again.
Go hungry and cold like the wolf.
Go wade like the crane.
The palms of your hands will thicken.
The skin of your cheeks will tan.
You'll grow ragged and weary and swarthy.
But you'll walk like a man.

INCREASED MILK SALES VIA DISPENSERS

Dear Norm:

In connection with our discussion when I was in New York regarding increased sales of milk in Vermont, I have been looking through some of my files.

I am enclosing a report that came out almost a year ago on the number of dispensers that had been installed during the previous year. The report also shows the daily increase in sales attributed to these dispensers. I am enclosing this report which originated in the Department of Agriculture in Montpelier. The figures in the first column of the table refer to the number of dispensers in specific inspection districts throughout the State.

Yours truly,

Alec Bradfield

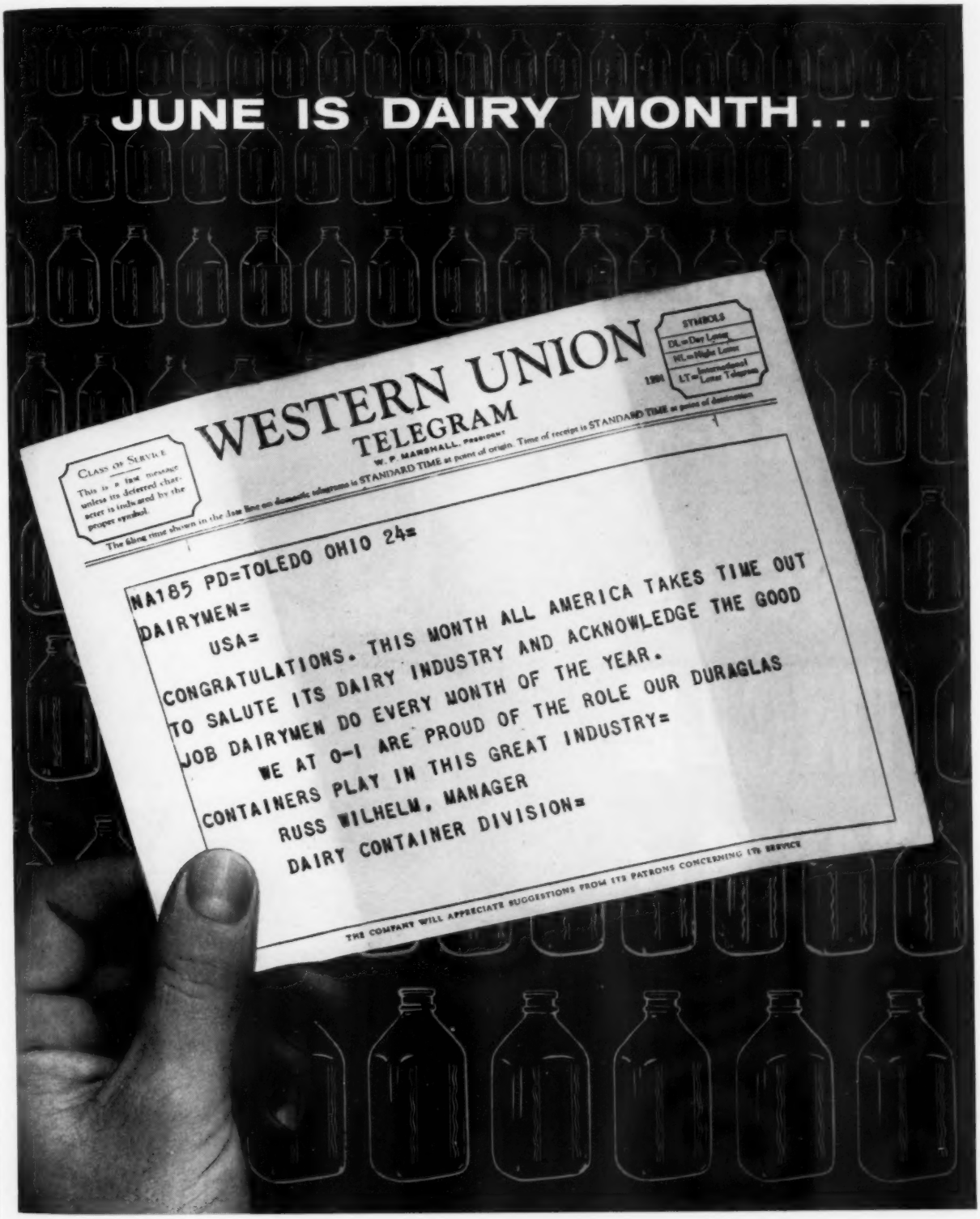
SUMMARY OF DAILY MILK SALES THROUGH BULK MILK DISPENSERS, VERMONT MARCH - 1956

		DAILY SALES — QUARTS			
No. of Dispensers	No. of Dealers	Homo	Choc. Milk	Choc. Drink	Coffee Cereal Special
27	10	685	10	29	4
58	9	1,931	....	70	....
69	13	1,106	4	55	....
24	6	252	90	5	....
61	12	1,370	....	36	86
43	9	709	....		31
282	59	6,053	104	195	121

During the past year seventy-three dispensers have been installed, increasing the daily sales of milk and milk products by 1,503 quarts.

Consumption conscious Vermont is not missing any bets where milk is concerned. A State-wide quality control program designed to produce a better tasting milk has also been an important factor in the remarkable per capita increase that the Green Mountain State has established.

(Please Turn to Page 111)


JUNE IS DAIRY MONTH...
WESTERN UNION
TELEGRAM
W. P. MARSHALL, PRESIDENT
SYMBOLS
DL = Day Letter
NL = Night Letter
LT = International Letter Telegram
CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.
The filing time shown in the date line on domestic telegrams is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination
NA185 PD=TOLEDO OHIO 24=
DAIRYMEN=
USA=
CONGRATULATIONS. THIS MONTH ALL AMERICA TAKES TIME OUT
TO SALUTE ITS DAIRY INDUSTRY AND ACKNOWLEDGE THE GOOD
JOB DAIRYMEN DO EVERY MONTH OF THE YEAR.
WE AT O-I ARE PROUD OF THE ROLE OUR DURAGLAS
CONTAINERS PLAY IN THIS GREAT INDUSTRY=
RUSS WILHELM, MANAGER
DAIRY CONTAINER DIVISION=
THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

DURAGLAS CONTAINERS
AN (I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO

NOW A MILK VENDOR THAT SOLVES "TAKE-HOME" SALES PROBLEMS OF DAIRIES

IT SELLS SINGLE QUARTS or 2 QUARTS SIMULTANEOUSLY

DEPENDABLE COIN OPERATED EQUIPMENT
SINCE 1906

Size: 34" Deep
44" Wide
67" High
Net Weight 775 Lbs.

JENNINGS
Automatic
"DUO" MILK VENDOR

- **With this new Jennings Vendor any dairy can now get into the highly profitable "take-home" milk vending market.**
- **The Jennings Duo-Vendor will sell a half gallon in the form of two separate quarts vended simultaneously, or a single quart at a time.**

The fact that you need but one machine for this dual job greatly decreases the necessary initial cost of getting started in the "take-home" milk vending business. And what's more, this machine gives the customer what he wants.

It will be to your advantage to get the facts today. Call, write or wire...

JENNINGS & COMPANY
4303 West Lake Street • Chicago 24, Illinois
Telephone: MAnsfield 6-2612

NOTE: Canopy pictured with Duo-Vendor is suitable for indoor or outdoor use and is available at extra cost.

XUM

NORMAN MYRICK ..... Editor

HERBERT SAAL ..... Assistant Editor

EDITORIAL ADVISORY BOARD

BERT ROELOF
Roelof's Dairy
Galesburg, Michigan

J. J. SWANER, President
Swaner Farms Dairy, Inc.
Iowa City, Iowa

WARD K. HOLM
Indiana Dairy Products Ass'n
Indianapolis, Indiana

American MILK REVIEW
An Urner-Barry Publication

- HAROLD E. TABER ..... Chairman of the Board
- JOHN C. TABER ..... President
- PAUL H. TABER ..... Vice-President
- GORDON URNER ..... Vice-President
- RAYMOND H. TABER ..... Treasurer
- ARTHUR A. BUTTERWORTH ..... Secretary

Address of the officers and publication is the same.

NORMAN MYRICK ..... Editor
Herbert Saal ..... Assistant Editor
*William S. Stinson ..... Director of Advertising
*John F. Struse, Jr. ..... Sales Manager
*Robert H. Wynne ..... Advertising Manager
*D. E. Spurgeon ..... Production Manager
*Raymond H. Taber ..... Circulation Manager

*Mid-Western Representative—Guy W. Whitcomb
520 No. Michigan Ave., Chicago 11, Ill.
Tel.: SUperior 7-1043

Member
BPA

United States, Canada, and U. S. Possessions ..... Subscription $3.00 per year
Foreign ..... $5.00 per year

Contents for June, 1957 *Vol. XIX* *No. 6*

General Interest

Editorial—Destructive Competition 22
The Atom in the Dairy Industry 24
by J. W. Harper
News From the State Capitals 92

Management

Labor Relations 44
Dairy Farm Sanitation Report 48
On the Legal Side 56
by Albert W. Gray
NDC Explores Methods of Meeting Heart Disease Problem 110

Plant

Automation in Cleaning 36
by Gail A. Smith
Industry Problems 66
by R. F. Holland and J. C. White
Plant Clinic 70
by V. H. Nielsen
Truck Talk 74
The Cost of Milk Waste Treatment 80
by Paul E. Morgan

Sales

June Push Paces Trend Toward 12-Month Promotion 32
by Herbert Saal
Multi-vitamin Milk Scores for Wisconsin Firm 58
by Thomas Norton
ADA Study Opens Door to Effective Sales Promotion 99

Where to Buy It

Supply and Equipment News 114
Product News 118
Wants and For Sales 122
Index to Advertisers 122

published monthly by the urner-barry company
92 warren street ● new york 7, n. y.

EDITORIAL

Destructive Competition

THE FAILURE OF A FAIR TRADE practices bill in Ohio is a blow to the dairy industry's efforts to extricate itself from the morass of destructive competition in which it is mired. The respect enjoyed by Ohio gives it an influence that extends far beyond its political boundaries. Other legislatures facing similar decisions will, to a degree, be affected by the debate and action taken at Columbus.

The unfavorable vote was probably the least of the misfortunes that befell the dairy industry. Far more serious in our estimation was the division of the industry that was exhibited. Despite the fact that the bill had the support of the Ohio Dairy Products Association the active opposition of certain powerful segments of the dairy industry contributed to its defeat.

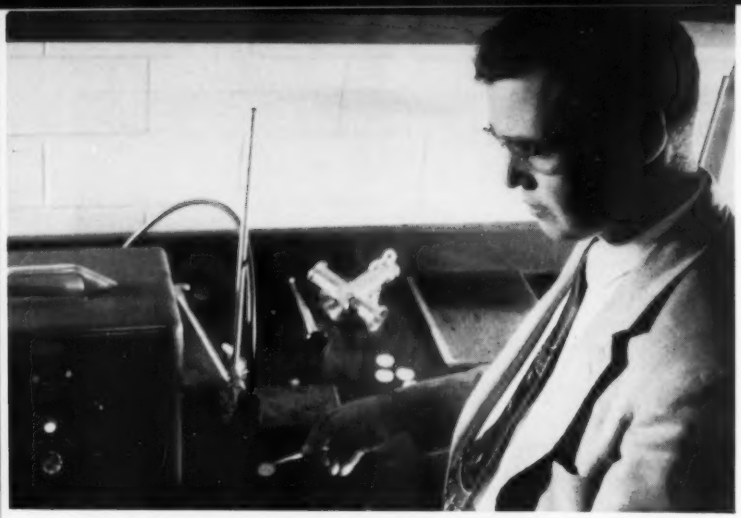
We can view the result only with distaste and foreboding. It tends to give substance to the basic evil in the competitive situation. The evil, expressed in terms of unjustified discounts, free equipment and services, extensive loans, and outright gifts of cash, transform competition from a contest based on quality, service and efficiency into a contest of financial strength. The victory goes to the biggest bank roll.

Such a condition is bad for the industry and bad for the country. It breeds a cynicism, a corrosion of the moral foundations upon which society rests.

We visited a magnificent plant a few weeks ago. It represented the best in milk processing equipment and design. Here was industrial management at its best. Here were the old virtues of thrift, of sound financial management, of service, of quality plus enlightened labor relations, progressive merchandising, and a high sense of industrial responsibility. By all the standards of the free enterprise philosophy this plant was a model. Yet it was struggling. It was struggling because it did not have a bank roll big enough to meet the deals that some of its competitors were offering. Of what avail are integrity, merit, and quality against a 12 percent discount with a new car thrown in?

This situation is not a mere matter of business relationships. This touches the very heart of the ethical and moral concepts that are the basic framework of civilization. A bribe is a bribe whether it is used to buy a vote or a stop. The demoralizing influence of such practices upon the industry is surpassed by the shameful deterioration of moral standards that they represent.

Hackney
SINCE 1854
®
We're Working with You
Hackney bodies always meet your needs and stay ahead of the parade, because "we're working with you." Hackney's factory representatives are strategically located to be at your beck and call. They keep their fingers on the pulse of your industry. Behind them is a staff of specialists at the home office, interpreting your needs through development and production of better bodies. Over a century of know-how and know-why is backed by a plant as modern as tomorrow, and equipped to turn out the miracles of today. One Hackney body in your fleet will prove its superiority. Let us give you all the facts.
Hackney Bros. Body Co. ★ Wilson, N. C. ★ Phone 7-0105
★ Builders of Better Bodies Since 1854



The author is shown here checking for concentration of radioactive calcium in a sample of milk used for testing cleanability of automatic sanitary valves. The sample of milk has been placed on a ground glass disc and dried. It is being placed under a Geiger tube.

A Nuclear Gauge for Measuring Ice Cream Overrun Has Been Developed. It Is the Practical Application of Atomic Radiation to the Dairy Industry. We Are Proud Indeed to Present, in the Article that Follows, a First Glimpse of the Mighty Future.

The Atom in the Dairy Industry

By W. JAMES HARPER

Exclusive feature AMR

The atom and the atomic bomb have been synonymous in the minds of most individuals for the past decade. However, there is a growing awareness of the constructive applications of atomic energy. The first atomic power plant began to produce electricity in the United States during February of this year. In the dairy industry several industrial and research applications are now a reality. Many other potential applications are being investigated.

The atom: In order to understand atomic energy better, let us look first at the atom, which is the basic building block of all matter. Atoms are extremely small; about one hundred million atoms are on the surface of a pin head. If a single atom could be magnified to the size of a large auditorium, the area would be mostly empty space. The nucleus, in the center of the area, would be about the size of a pea. In our magnified atom these electrons would be just visible particles around the edge of the room, whirling around the nucleus in much the same manner as planets rotate about the sun.

Both the neutron and the proton weigh about the same, but only the proton is electrically charged. The positively charged protons together with the negatively charged electrons give the atoms their particular chemical characteristics whereas the protons and neutrons give the atom most of its weight. Each element has a given normal atomic weight. Carbon, for example, has an atomic weight of 12.

The construction of the atom depends upon the type of element that is involved. In hydrogen, the simplest atom, the nucleus is made up of a single proton. One electron rotates about it. In all atoms except hydrogen, the nucleus also contains neutrons. Atoms may contain the same number of protons and electrons and differ only in the number of neutrons in the nucleus.

Radioactive Isotopes: The protons and neutrons of a nucleus may be envisioned as being bound very tightly together. As more neutrons are added to the nucleus, the bond between the particles becomes weaker and the atom becomes unstable. This can be compared to a heavy man who puts on a shirt several sizes too small for him. Under the strain something must give – so a button flies off the shirt to relieve the strain. The tighter the shirt the more buttons that will have to "pop" to relieve this strain. Similarly, as the neutron load of the nucleus increases, the atom becomes heavier and the strain increases until some part of the atom "pops." Thus the atom becomes radioactive, giving off one or more different kinds of particles. Some atoms, such as carbon-14 (carbon with a molecular weight of 14 instead of the normal 12), become stable by popping a single button. The radioactive carbon becomes stable nitrogen. Other atoms change through a series of elements, each one radioactive, until the final stable form is attained. This is true with many heavy natural elements in which the

W. James Harper is a member of the Department of Dairy Technology at Ohio State University. He is many things; a bacteriologist, a chemist, a dairy technologist, although would probably admit to only the first. But most of all Jim Harper is an explorer. This article, written especially for the "American Milk Review," and listed as Article 6: 57 of the Department of Dairy Technology, is in a sense, an explorer's account of a venture beyond the frontier.

preponderance of neutrons is so great that these elements are naturally radioactive and go through a series of changes. Uranium, for example, gives a number of daughter elements of which radium is the fifth generation and lead is the last stable form.

Although quite a few natural radioisotopes are found, man has found methods to make many hundreds of these artificially. The easiest to understand is the method which shoots neutrons into the nucleus of an atom and so make it unstable. This is accomplished in nuclear reactors, such as the one at Oak Ridge.

Man can now make elements which transmute into different elements; radioactive phosphorus becomes stable sulfur. Thus it is that the dream of the alchemist has come to pass and gold can be made by man. However, the manufacture of gold is impractical since the starting material is platinum.

These radioactive elements may give off various kinds of atomic particles. The particles may be alpha, beta (electrons) or gamma rays — or a combination of these. They vary in their behavior. The variations are important in selecting the proper isotope for a given job (Figure 2). Alpha particles will not penetrate paper. Beta particles will not go through one-eighth inch of steel. Gamma rays (similar to X-rays) will go through many feet of lead or concrete.

The average rate of the decay (loss of radioactivity) of the radioactive element is always the same for each specific element. Therefore, it is possible to predict just how long it will take for a given radioactive element to change into a more stable form. The amount of time required for one-half of the radioactivity to be lost is called the "half-life" of the radioisotope (Figure 3). This provides a valuable concept in the use of radioactive elements. A long half-life may be needed for many industrial applications, where a rapid radioactivity would cause errors. A long-life isotope decreases in the amount of radiation given off so slowly that only occasional calibration of instruments is required. In many biological applications it is desirable to have a short half-life isotope in order to minimize radiation effects. Similarly, application of very short-life isotopes to dairy equipment could give valuable information without having the equipment contaminated for a long time.

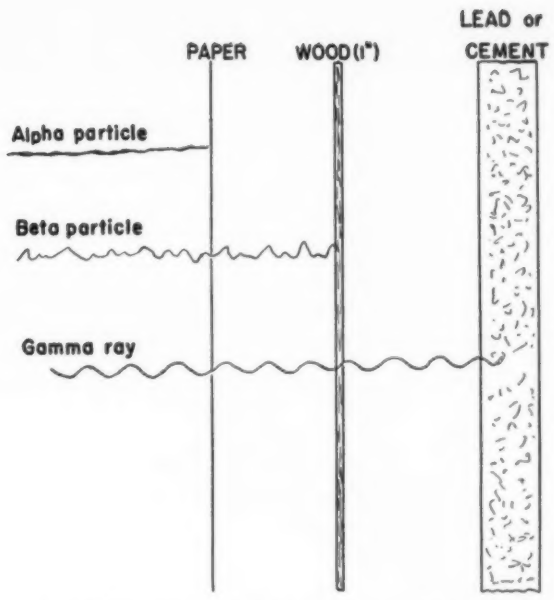


Figure 2: The three major radiations from radioactive atoms. The diagram shows their relative penetrating ability, which is an important property in selecting isotopes for various uses.

Atomic Energy: When an atom assumes a state of radioactivity, sending out one or more elemental particles, the emission is accompanied by energy. The energy of the emission varies with the element involved. Some radiations occur at very high energy levels, in terms of millions of electron volts (Mev). However, there is not enough energy released to be useful in the production of power. Much more energy can be obtained if the nucleus of an atom can be suddenly split. This splitting or fission has been accomplished with Uranium-235, releasing tremendous energy. This element, U-235, is the fuel for present day power reactors. A pound of Uranium-235 can give 2½ *million times more heat energy than the burning of a pound of coal.* In practice, this energy is converted into steam which is used to drive turbines for generating electricity or running an engine such as in the atomic submarine. (Figure 4).

Applications of Radioisotopes in the Dairy Industry

The application of atomic energy can be divided into two general parts: (a) the direct or indirect use of radioisotopes, using relatively low energies, and (b) the direct application of the atomic reactor for the production of power, using the very high energy released by fission of Uranium or Plutonium. At the present time the applications of atomic energy in the dairy industry are concerned with the use of radioisotopes. Therefore, the re-

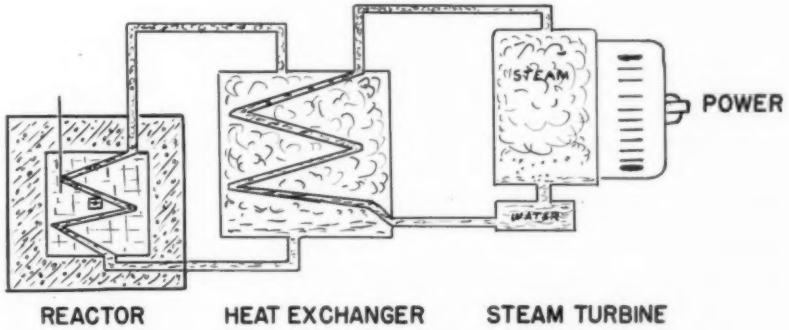


Figure 4: Schematic diagram of how a reactor, using Uranium-235, can be used to supply power. The heat from the fission of U-235 is used to make steam, which in turn drives a turbine to provide power.

mainder of this discussion will be concerned with how radioisotopes are being used in the dairy industry.

Research Uses: Radioactive isotopes are extremely valuable to research because of the minute concentration at which they can be detected. For example, as little as 1/100,000 gram of radioactive carbon could be accurately measured when distributed through five thousand pounds of milk. Because of this sensitivity research is possible with an accuracy and speed never before achieved. In fact, much research, previously impossible, can be accomplished relatively simply with the use of radioactive isotopes.

In using radioisotopes for research, some precautions must be maintained. All radioactive isotopes are potentially dangerous to humans and cannot be handled carelessly or ignorantly. However, the danger has been greatly exaggerated, and properly handled they are as safe as electricity or gasoline.

The three isotopes, which have the greatest application in dairy research at the present time, carbon 14, phosphorus 32, and calcium 45, are relatively safe to use from a radiation hazard standpoint. They all emit beta particles which are of rather low energy and require little shielding. Generally, glass and plastic containers provide enough protection for most applications. Major precautions which must be taken are to use small amounts of the materials, and to make sure that the radioactive solutions never come in direct contact with the skin. With careful handling no radiation danger exists in doing research with these materials.

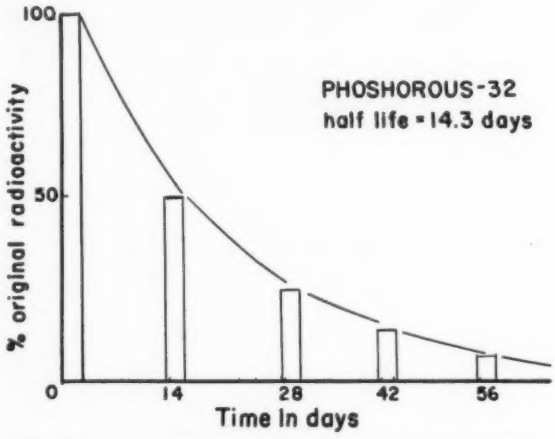
Radioactive isotopes may be detected in several ways. Two common methods are to detect the radioactive rays by means of Geiger counters or exposing photographic plates.

A Geiger counter is a sealed glass tube which is filled with a special gas and containing a small wire running in the middle of a metal cylinder. When a particle or ray from a radioactive isotope enters the tube, gas momentarily becomes conducting. If a battery is connected across the tube, then the current which flows may be amplified by vacuum tubes and is then conveniently measured with a suitable scaling apparatus. The scaler may vary from merely an indicating dial to elaborate instruments which count and add up the number of particles which enter the tube each second. The results are recorded in the number of disintegrations (counts) counted in a unit of time. This unit, called the Curie, after Madame Curie, is 3.7 X 10^{10} counts per second. In most research applications in the dairy industry we work in terms of millicuries or microcuries, a millicurie being the amount of radiation that results in 3.7 times 10^{7} (37,000,000) or counts (disintegrations) per second. Generally, less than a microcurie (37,000 counts per second) is used in a single experiment. Only a small portion of this needs to be present to be accurately counted.

There is some radiation going on about us all the time. This, caused by cosmic rays, contributes to the natural count or "background" which must be considered for accurate results. Frequently, the Geiger tube is protected by lead shielding which reduces the amount of background radiation and increases the sensitivity of the counting.

Another means of detecting radioactive isotopes is to expose an X-ray plate in their presence. Radiation emitted from the isotopes will cause exposure of the X-ray plate wherever they come in contact. This technique is especially useful in chemical applications.

Radioisotopes already have been applied to several important dairy problems. Pennsylvania State University research workers utilized radioactive carbon-labeled lactose to study the browning reaction caused by high heat treatment of milk in milk products. By this means they were able to prove the combination of lactose and protein which occurs in browning. University of Minnesota researchers have applied radioactive carbon to the study of the formation of the flavor component, diacetyl- - -. Cornell workers have utilized radioactives phosphorus to study cleaning of various types and polishes of stainless steel. They fed the radioactive phosphorus to bacteria and then measured the ability of the cleaning procedure to remove the "hot" bacteria from the surface of metal. Investigators at Ohio State University have utilized radioactive calcium to evaluate the cleanability of newly designed automatic sanitary valves and CIP sanitary fittings and gaskets. In other work at O.S.U. radioactive phosphorus is being used to study corrosion of stainless steel, and to investigate differences in the metabolism of antibiotic sus-



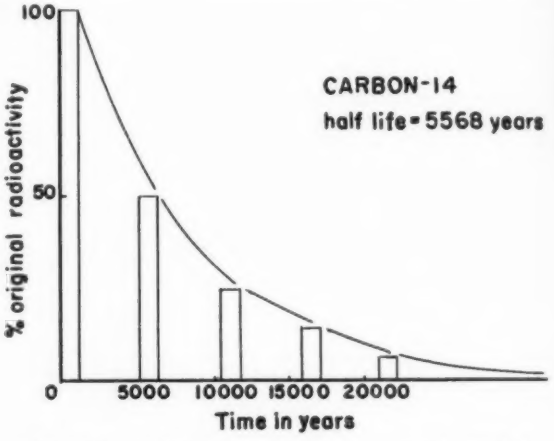


Figure 3: The half-life of a radioisotope is the amount of time it takes to lose one-half (50%) of its original radioactivity. Radioisotopes vary widely in the length of their half-life. The diagram shows how two radioisotopes, commonly used in dairy industry research, lose their radioactivity over varying periods of time.

ROLL-EASY CASE DOLLIES "The Finest"

FOR EVERY SIZE GLASS OR PAPER MILK CONTAINER

"THE WORLD'S STANDARD"

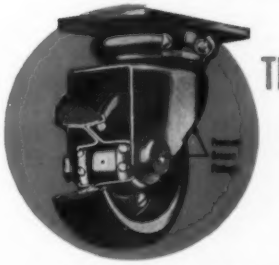
A Size for Every Need...

Roll-Easy Dollies are available for every size milk case. Cases — from ½ pints to gallons and for any style paper or glass containers.

Roll-Easy Dollies are designed to hold one, two or three cases to the platform. When ordering, specify size wanted as well as outside length and width measurements of crate.

OUTSTANDING ADVANTAGES

- ✓ LOW COST
- ✓ SAVES FLOORS
- ✓ NOISELESS
- ✓ SPEED HANDLING
- ✓ DESIGNED FOR 1000-LB. LOADS
- ✓ ALL STEEL FRAMES AND CASTERS
- ✓ FULLY CADMIUM PLATED



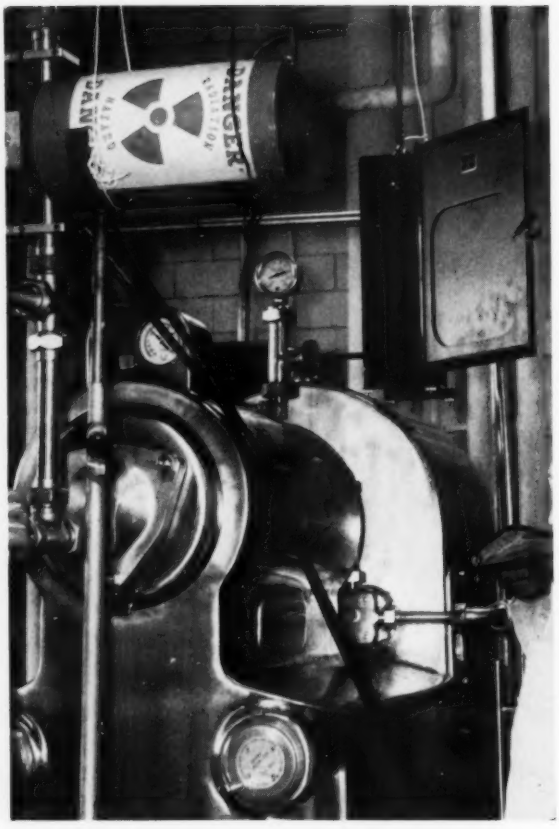
THE ONLY CASE DOLLIES *with the famous* **"ROLL-EASY" CASTERS**

BALL BEARING WHEEL AND SWIVEL PRESSURE LUBRICATED • CADMIUM PLATED • REPLACEMENT RUBBER TIRE

NOTE: Any minor changes in construction or finish from specifications are temporary and due to inability to secure standard materials.

Haynes

THE HAYNES MANUFACTURING COMPANY
709 WOODLAND AVENUE • CLEVELAND 15, OHIO
Stocked and sold by leading dairy supply houses



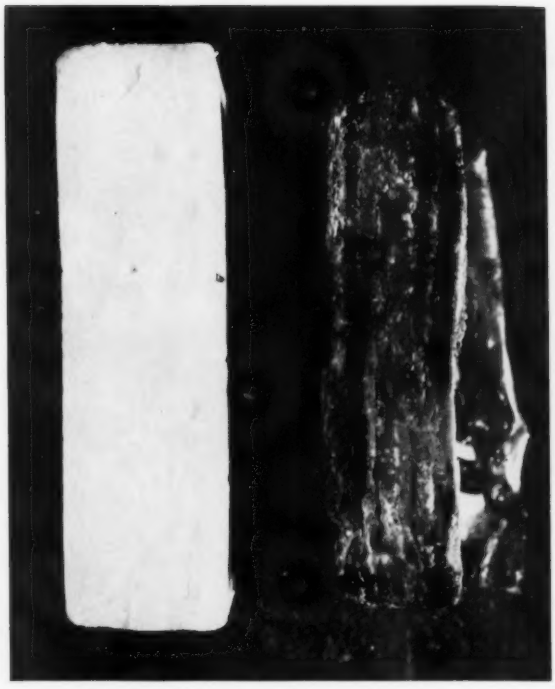


Figure 7: Radiated cheese on left has been kept for eight months and is free of mold, whereas control on right is completely spoiled by *molding*.

Figure 6: Early experimental design of a nuclear ice cream overrun gauge which shows the isotope source (on right) and detector (left) attached to pipe from freezer.

ceptible and resistant cultures; radioactive carbon also is being used to study bacterial metabolism particularly in relation to cheese ripening (Figure 6). These are a few illustrations of work which has been done. Other work is being done today in various research laboratories. Wide applications exist particularly in the fields of dairy engineering, bacteriology and chemistry, which will provide quicker solutions of problems which have long existed in our industry.

Process Control: Radioisotopes provide extremely sensitive means for use in process control. Many are familiar with the application of radioisotopes in controlling the packing of tobacco and cigarettes and controlling the thickness of paper. In the dairy industry the first practical application will be to the measurement of overrun in ice cream. At the present time there is in development a nuclear gauging system for measuring ice cream overrun (Industrial Nucleonics Company, Columbus, Ohio) which will be marketed this spring (Figure 7). This system is especially applicable to continuous freezers, particularly since other continuous measuring systems generally have not been successful.

A nuclear gauging system consists of a source of radiation (radioisotope), a radiation detector, an amplifier, and a recording device. If the source and the detector are suspended on opposite sides of the material to be measured, the radiation passes through the source from the material to the detecter. This transmission or absorption gauge can determine accurately the density of the product. Neither beta or alpha transmissions, which are particulate in nature and readily absorbed in as little as 1/300 of an inch of steel, are satisfactory. Gamma radiation, being electromagnetic and similar to light waves or X-rays, will pass through many inches of steel. Therefore, gamma radiation is required in the measurement of ice cream overrun.

Nuclear radiation as stated previously, can be dangerous if improperly handled. However, nuclear gauging equipment is designed so that these dangers are insignificant. In application to ice cream, consideration has been made of both the safety of the operating personnel and the safety of the consumer of the ice cream. Proper shielding of the radiation source protects the operating personnel. The Atomic Energy Commission has established a tolerance of seven milliroentgens per hour, which means that employees may be subjected to radiation field of seven milliroentgens per hour for a normal working week continuously with no effect on their health (roentgen, which is another unit of radiation used by health-safety people, is the amount of radiation that will form one electrostatic unit of electricity in 1 cc of dry air). The gauging equipment is devised so that an employee could sit on the housing 40 hours a week and not receive the permitted dosage. Since radiation decreases in proportion to the square of the distance from the source, workers will receive much less than permitted tolerances. The ice cream cannot become radioactive. No quality defects have been observed when the nuclear gauge has been used experimentally The amount of effective power which is transmitted to the product by the radiation source will be about 4 micro-

(Please Turn to Page 98)

Cafeteria managers, too, prefer CANCO cartons

... because they save refrigerator space, minimize "clutter," lower clean-up costs!

Canco cartons help the cafeteria manager make his lunchroom more attractive, more efficient. Their compact, flat-top design helps to conserve valuable refrigerator space. Because they're disposable, there are no empties to collect, store, and return—thereby lowering his labor costs.

What's more, cafeteria patrons prefer Canco cartons—in all of the popular sizes. For this basically superior container is much easier to open, provides "controlled pouring," is sturdy, sanitary, handsome. That's why it's everybody's favorite—factory workers, teachers, vendors, children.

You'll like the Canco carton, too, especially when you learn how it can actually lower your costs while increasing sales. Let the Canco representative give you the details!

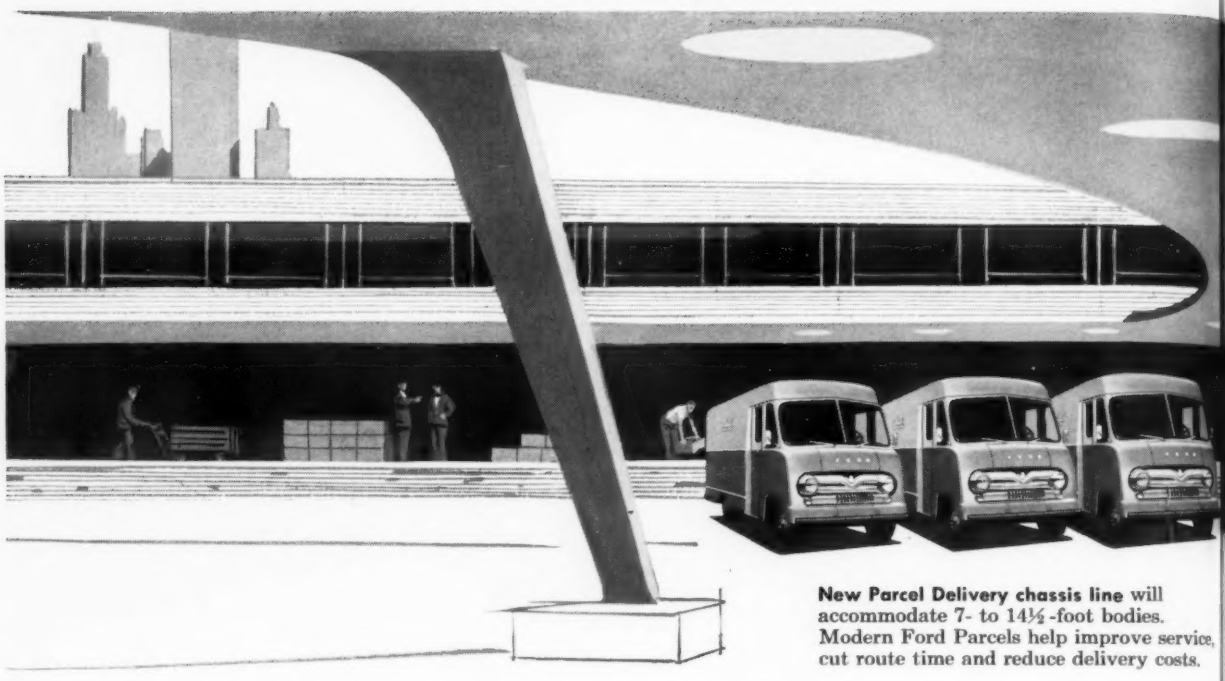
Ask your customers which carton they prefer!

Ask housewives, vendors, teachers, grocers—ask some children, too. Show them the Canco carton—any size—along with *any* other milk container you choose. You'll find the preference is overwhelmingly for Canco!

THE PREFERRED CARTON
... KNOWN BY
THE FAMOUS CANCO OVAL

AMERICAN CAN CANCO COMPANY

NEW YORK • CHICAGO • SAN FRANCISCO



New Parcel Delivery chassis line will accommodate 7- to 14½-foot bodies. Modern Ford Parcels help improve service, cut route time and reduce delivery costs.

The Big Fleets buy more FORD TRUCKS than any other make!

Why? . . . because on-the-job performance and low operating costs prove FORD trucks cost less!

Take a tip from the men who buy trucks every year. Official truck registration data shows that owners of America's biggest commercial truck fleets are buying more Ford trucks than any other make!

Dairies and milk transporters, large and small, have found Ford trucks are best for their fleets. To begin with, Ford's initial costs are low. Many models are priced below all competitive makes. For example, the new Ford Tilt Cab models are America's lowest-priced!*

And it costs less to run a Ford truck! Thanks to modern Short Stroke power and sturdy chassis construction, operating costs and "shop time" are reduced. Another important Ford plus is longer truck life—a fact certified by independent insurance experts.

Add it all up—you'll find Ford trucks do cost less! Contact your Ford Dealer . . . let him show you why the big fleets are buying more Ford trucks than any other make.

**Based on comparison of manufacturers' suggested retail prices*

Ford's Medium Duty trucks have higher horsepower and more rugged chassis construction. Your choice of three modern Short Stroke engines—V-8 or Six.

ONLY FORD GIVES YOU ALL THESE MODERN FEATURES

NEW Heavy Duty V-8 engines now have 4-barrel carburetion standard. Fresh-air intake with new thermostatic control optional on 302 and 332 V-8 engines. Dual exhausts also available.

NEW Styleside pickup bodies, standard at no extra cost. America's biggest pickup bodies! Built wider with all-steel rugged box section corner reinforcements and recessed taillights.

NEW riding comfort! A completely new chassis suspension, roomy cabs with increased visibility, greatly improved riding and handling ease.

NEW power advances! New higher horsepower, new freer breathing, new higher compression ratios, new Super-Filter air cleaner. New advancements from camshafts to carburetors.

NEW Driverized cabs—completely new—stronger, roomier, smarter! New wider full-wrap windshield. New inboard cab step, new Hi-Dri ventilation, new easy-to-read instrument panel!

NEW chassis strength! New frames, up to 13% stronger. New sturdier axles! New higher-capacity, easier-riding springs!

FORD TRUCKS COST LESS

LESS TO OWN · LESS TO RUN · LAST LONGER, TOO!

Allied food distributors are becoming increasingly aware of the promotional opportunities in June Dairy Month. A bevy of candidates for famed Westchester County's first Dairy Princess serve Mickey Mantle, the New York Yankees great centerfielder, an outsized draught of General Foods' Kool-Shake. As a tie-in with June Dairy Month General Foods staged Mickey Mantle Day in Pleasantville, N. Y. Shown enjoying the shake with Mickey are (left to right) Francine Rocco of Yorktown Heights; Marlene Huff of Hastings; Anita Reitberger of Somers; and Elsie Huback of Port Chester.

June Push Paces Trend toward 12 Month Promotion Program

By HERBERT SAAL

RECOGNITION of the need for continuing nation-wide promotion of milk throughout the year is being translated into action. This year, with more than six million dollars in the advertising kitty provided by its farmer members, the American Dairy Association is leading the parade. The Association has embarked on a campaign of national advertising designed for maximum impact on the 80 million Americans between 18 and 54 years of age who comprise 53 percent of the population.

Using a theme that sells milk as a pleasant satisfying beverage, that makes it fun to drink and makes people want to drink it, ADA has purchased space in *Life* magazine and *Reader's Digest* as well as time on television through Disneyland. Five two-page spreads have appeared before the 26 million readers of *Life;* three one-page ads, before the 35 million readers of *Reader's Digest;* and 15 commercials, before the televiewers in the estimated 50 million homes in which Disneyland is watched – all in the first six months of 1957.

The ADA campaign in all media hits hard with the slogan, "Refresh with Milk!"

The Association is making a strong effort to encourage industry use of the ADA program. Help for milk distributors is provided in the form of newspaper ad mats, outdoor posters, dairy case strips, wire hangers, and store posters – allowing space for the name of the individual company. Bottle hangers, leaflets and restaurant materials providing for company identification are also available. All material for local use ties in with the national campaign, stressing the "Refresh with Milk" theme.

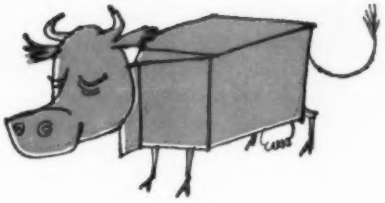
Pure-Pak is running a heavy schedule in such national publications as the *Saturday Evening Post* and the *Ladies Home Journal*, taking full pages to talk about the advantages of milk in Pure-Pak cartons. It also has made a 16 mm, color, sound motion picture narrated by Bob Considine. Called the "New Story of Milk," the film has had a favorable reception before church, school and civic groups. It is available for dairies wishing to arrange such a showing.

The Glass Container Manufacturers Institute is also turning to national publications to advocate the purchase of milk in glass bottles. Its attractive four-color ad in the *Ladies Home Journal* in May is headed, "What could be sweeter and fresher than milk right out of the bottle?"

June Dairy Month represents the climax of intense effort to advertise and merchandise milk and milk products. Behind the June Dairy Month wheel are the shoulders of 13 national milk and milk products organizations representing farmers, cattle breeders, suppliers, processors, and distributors. They are: American Butter Institute, American Dairy Association, American Dry Milk Institute, Dairy Association Executives, Dairy Industries Supply Association, Evaporated Milk Association, International Association of Ice Cream Manufacturers, Milk Industry Foundation, National Cheese Institute, National Creameries Association, National Dairy Council, National Milk Producers Federation, and Purebred Dairy Cattle Association.

Recognizing that no national campaign can succeed without strong sup-

They thought he owned a chocolate cow!



A story based on the true case history of a Kraft Chocolate-Flavored Powder customer!

J. Lester Kreamer*, a dairy operator with big plans and an open mind, (Watch that open mind! It's important.) was always on the lookout for good promotion ideas for his products.

One of his best idea givers was Charley, the Kraft salesman who'd sold J. Lester on flavoring his chocolate milk with Kraft's Stabilized Chocolate Flavored Powder.

This was only as it should be, because Kraft Powder salesmen *always* furnish their customers with 3 important things: 1) a flavoring of superior quality; 2) technical assistance with chocolate milk processing; and 3) proven merchandising ideas to help chocolate milk or drink sales.

So J. Lester didn't even bat an eye when Charley came running into his office with a knife one day.

"Know what this is?" asked Charley.

It's a proven merchandising idea," said J. Lester, quick as a flash.

And he was right. (The open mind does it every time.)

Charley explained he'd made arrangements for J. Lester to purchase this $1.00 retail value knife direct from the manufacturer for just 19¢. He thought it would make a wonderful premium for J. Lester's chocolate milk customers.

J. Lester agreed and, quick as you can say pasteurization, they worked out a plan.

A single flyer offered the knife to customers for 25¢ and two caps from quarts of Kreamer's chocolate milk.

A salesman's contest with three automatic coffee percolators as prizes was run at the same time. (Charley got the percolators wholesale for J. Lester, too.)

That May J. Lester sold 3,874 quarts of chocolate milk. His previous May's sale had been 840 quarts.

What's more, even after demand for the premium fell off, chocolate milk sales stayed near peak level. And

youngsters who'd tasted Kreamer's chocolate milk at home, began asking for it at school. (Kreamer's dairy doubled its bottling of pints with most of the increase going to schools.)

Seems everybody liked the rich chocolate flavor of Kreamer's chocolate milk. (Flavored by Kraft!)

Perhaps that's why, when a group of school children was visiting Kreamer's dairy, one of them asked J. Lester where he kept his chocolate cow.

J. Lester never heard. He was too busy checking the figures on his chocolate milk sales increase.

He couldn't have told the youngster anyway. J. Lester doesn't have a chocolate cow. What he has is an open mind (and a real profitable business in chocolate milk.)

If you have the first, your Kraft salesman can help you get the second. Why not phone or write your nearest Kraft branch or division today and find out how?

*Actual name on request.

Kraft Foods

500 PESHTIGO CT., CHICAGO 90, ILLINOIS • DIVISION OFFICES: NEW YORK • GARLAND, TEXAS • CHICAGO • SAN FRANCISCO

XUM

port at the local level – in this case by local dairies and local newspapers, the American Dairy Association has developed a 12-page newspaper clip-sheet containing two pages of publicity about the place of milk in the history and the diet of the nation, three pages of June Dairy Month ads, three pages of recipes featuring dairy products in summer dishes, and four pages of milk, butter, buttermilk, chocolate milk, sour cream, cottage cheese, nonfat dry milk, cream, evaporated milk, ice cream and processed cheese ads.

While the clip-sheet was issued to newspapers, timed to get the greatest impact from the June Dairy Month promotion, it is significant that most of the material – both ads and publicity – can be used at other times during the summer months as well.

Also available to dealers for June Dairy Month are store posters, over-the-wire hangers, window banners, price cards, product strips, public relation posters, sales strips, industry support kits and sales promotion kits. These are for use where it counts the most – at the local level.

State, regional, county, and city organizations – such as the Milk Industry Association of New Jersey, the Nassau-Suffolk Milk Dealers Educational Committee, New York; the Pennsylvania Association of Milk Dealers and so on down the line all have encouraged their members to help themselves by helping the June Dairy Month promotion. They have bombarded newspapers and radio and television stations with press releases and have lined up speakers for various service organizations.

June Dairy Month posters are being carried on both sides of all U. S. Mail trucks from June 15 to June 30. Tie-in advertisements have been arranged with several of the larger food companies. Food editors have cooperated with timely menus and recipes.

A mechanical cow was used by Bowman Dairy Company of Chicago as a part of their June Dairy Month activities. Promotions by individual firms embrace a wide variety of projects distinguished for their excellence and effectiveness.

Shari Lewis, American Dairy Princess, is participating in June Dairy Month festivities in various parts of the country.

Activities other than promotional are also taking place as part of the big June push. On June 4 the spotlight will be on Williamsburg, Virginia where an observance of the 350th anniversary of the American dairy industry will take place. It was at Jamestown, Virginia that the first dairy cattle in the English colonies were landed.

President Eisenhower has written: "The American dairy industry, tracing its beginnings to the founding of Jamestown Colony in Virginia three hundred and fifty years ago, has pioneered in its contribution to the health and welfare of our people.

"In our country dairying has grown into a dynamic, highly specialized industry. Today, it requires a work force of several million people to produce, process, and distribute the sixty billion quarts of milk and milk products consumed by the American people each year. This vast quantity of basic foodstuff fills an important part of the nutritional requirements of our people and is a splendid addition to the strength of our nation.

"Congratulations to the American dairy industry and best wishes to all who are engaged in this vital enterprise.

Four purebred Jersey calves, a gift from the English Jersey Cattle Society to the American dairy industry, will be a part of the ceremony. While the first dairy cows did not reach Jamestown until 1611 the first colonists did bring butter and cheese to the New World.

State and local societies the country over have scheduled a wide variety of special events for June. In North Carolina the Dairy Foundation sponsored by producers, processors and supply people to encourage education in dairy technology and improve facilities for teaching dairy subjects at North Carolina State College will carry out its program in connection with June Dairy Month activities.

The National Association of Food Chains is lending its support to the June program. In a letter to presidents, sales and advertising managers and other top operating executives of chain supermarkets throughout the country President John A. Logan advised, "All dairy products can be fitted into merchandising schedules for June Is Dairy Month and present opportunities for store-wide related-item promotion."

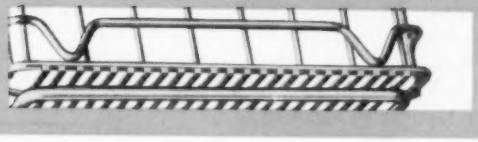
June Dairy Month has snowballed into the biggest food promotion in the United States. This trend, happily, shows no signs of drying off. Perhaps the success of June Dairy Month stimulated interested parties into thinking, "Why don't we do this more often? The 11 other months of the year, for example." Whatever the reason, advertising and promotion of milk during non-June months has grown at a healthy rate.

SUPERIOR®

truss construction protects bottles — cuts crate damage to a minimum

No. 1124SS—24 bottle bottom stacking

Flat wire bottom with 12 heavy flat wires is standard. Where additional bottom support is desired, 23 wires as illustrated can be furnished at slight additional cost.



Light
Sturdy
Glass Smooth
Economical

Superior wire crates for paper and glass bottles are built of heavy-gauge steel wires firmly welded to make a strong, lightweight, durable case. Bacteria cannot accumulate on specially plated, satin-smooth surfaces. Lightness and easy cleaning simplify handling and stacking, reduce work fatigue. Open construction shortens cooling time. Low initial cost and low upkeep assure years of dependable service.

Available for bottom stacking or with top stackers for all types and sizes of glass and paper bottles.

No. 960 For oblong half-gallons

SUPERIOR®

JOHN WOOD COMPANY

Superior Metalware Division
509 Front Ave., St. Paul 3, Minn.

JOHN WOOD

WIRE CRATES for paper and glass bottles • DISPENSER CANS
MILK CANS • ICE CREAM CANS • HARDENING BASKETS
HOODED and OPEN PAILS • STRAINERS
Metalware for the Dairy Industry and Waste Receptacles

The Subject of Automation Is Occupying an Increasingly Large Place in Industry Thinking. This Article Is a Practical Evaluation of —

AUTOMATION IN CLEANING

By GAIL A. SMITH

AUTOMATION in cleaning may mean different things to different people. So that we may think along the same lines, let us define automation in cleaning as, "Saving labor with machines."

This discussion of automation in cleaning, or mechanical cleaning, as we have it today will cover some of the problems and some of the limitations which must be overcome before we have perfect automation.

There are two major reasons for adopting automation in cleaning. The first is to reduce labor costs. Today, men work fewer hours and receive higher pay than ever before. In addition, fringe benefits have been greatly increased. These are hospitalization, retirement plans, longer vacations, pensions and sick leave. These extra costs are very familiar to all of us.

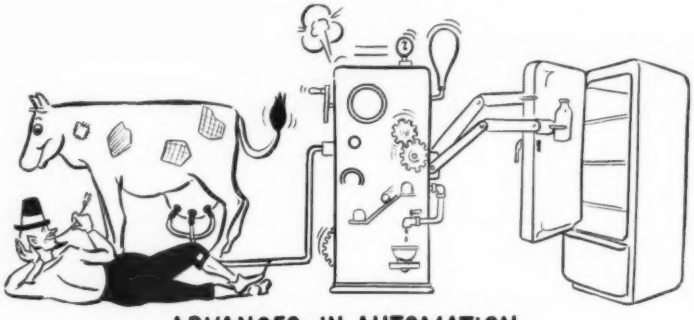
What is not familiar to us is what the future will bring. We have seen the work week reduced from sixty hours to forty hours in past years. In the future, this may drop to a thirty hour week or even less. Fringe benefits also may increase and include factors about which today we have not even thought.

If these additional benefits are to be paid without increasing prices, it is necessary to increase efficiency so that the work produced with an hour of labor compensates for increased labor costs. Automation in cleaning has done a great deal to help increase the efficiency of labor so that higher costs can be met without an increase in price.

The second major reason for having automation in cleaning is to provide better sanitation. Studies have shown that lines are much cleaner when using C.I.P. methods than when cleaned by hand brushing. This has been demonstrated by research by several college dairy departments.

Developments in automation in cleaning are only in their infancy. In a few years the development of new equipment designs, new construction materials and new cleaners will probably revolutionize cleaning. Only one short cleaning cycle may be necessary to clean and sterilize. The equipment may then be stored in a sterile room so no further attention is necessary before processing.

We have lived to see the day when an airplane flies fast enough to catch up with bullets shot from its own gun.



ADVANCES IN AUTOMATION

Surely, advances in automation cleaning in the future will be limited only by the limits of our own imagination and ingenuity.

So, we have two very good reasons for adopting automation in cleaning. It is very sure that both of these reasons—to reduce costs and to improve sanitation—are going to become more demanding as time passes.

Problems in Automation in Cleaning

When we adopt automation in cleaning, we encounter many problems. It has been said that when we solve one problem we create two others. This usually holds true in automation.

Stainless steel is protected by very thin, very tough, transparent, oxide film. It is this film which makes stainless steel resistant to corrosion. If the film is removed, it is rapidly and spontaneously rebuilt by oxygen, providing oxygen can get to the metal. If oxygen cannot get to the stainless steel surface, the metal will corrode in a manner very similar to ordinary iron.

The fact that oxygen cannot get to the stainless steel to repassivate the film is one of the reasons we have corrosion troubles in mechanical cleaning. Equipment cleaned by circulation, given a final rinse, and left till processing the next day does not drain completely. Water prevents oxygen from reaching its surface. If oxygen cannot reach the surface, eventually the stainless steel becomes depassivated and rusting and corrosion result.

To permit oxygen to reach the surface of stainless steel, it is commonly recommended that the equipment be opened for inspection and air drying. This opening requires extra labor, and therefore is just the opposite of what

we are trying to accomplish by automation in cleaning.

Soil adhering to the surface can prevent oxygen from repassivating the oxide film, and thus cause corrosion of stainless steel. Milkstone also can cause corrosion in the same manner. It is very important to keep equipment clean at all times if corrosion is to be prevented.

Magnetic and non-magnetic stainless steel in the same system can induce electrical current and cause corrosion. The equipment can be checked with an inexpensive magnet, and if both types of stainless steel are found, automation or mechanical cleaning should be used with a great deal of caution. Fortunately, equipment manufacturers now are careful not to use these different types of stainless in the same piece of equipment or the same system. The importance of this fact, however, was not always accepted so we still find equipment that has the two types of stainless steel. If existing pipes are used for making a C.I.P. type line, they should be carefully checked to insure that they are all of the same type. We have seen valves where only the bottom plate was magnetic, the balance of the value being non-magnetic, yet the corrosion was so bad that the valve was worthless.

Iron filings can cause corrosion very quickly. In the laboratory, we can cause rusting in 12 hours by merely putting some iron filings on a stainless steel plate in the presence of moisture, and holding in a 100° F. oven. Two cases of tank corrosion have been encountered in the field where bits of stray metal adhered to the bottom of storage tanks and caused corrosion and pitting. This type of corrosion can eat through the wall of a storage tank in a very short period of time, and make major repairs necessary. Whether your tanks are cleaned by hand or by mechanical means, it is always wise to give them frequent inspections to make sure bits of metal are not sticking to the bottom of the tank.

Chemicals vary in the speed with which they induce corrosion. The halogens – chlorine, bromine and iodine – are the most corrosive chemicals used in dairy cleaning. Acids are the next corrosive, then water, and alkalies least of all. We have some common examples to prove that alkaline cleaners are less corrosive than acid. Bottle-washer soaker tanks are made of ordinary steel and are kept continuously filled with a caustic solution testing from 1½% to 5%. These tanks are used continuously yet they will last for many years with very little or no rusting.

Tests run with chlorine products show that contact time of sanitizing solutions should be limited. Equipment should be used within at least twenty minutes after sanitizing.

In-plant welding can also cause corrosion. We are told by the stainless steel industry that the heat of the torch depassivates the surface and needs special treatment for repassivation. Close inspection of tanks often shows corrosion on the weld seam and none on the balance of the tank. For greatest safety, welding of stainless steel equipment should be done only by an expert stainless steel welder.

The second major problem encountered in automation in cleaning is the hand work necessary. We have done a great deal to eliminate this hand work but there is a great deal that remains to be done. One very typical example is the necessary change-over from processing to circulation with an HTST pasteurizer. We do not at this time have a positive pump that is recommended for circulating a cleaning solution. Valve plugs must still be removed and hand cleaned if we follow the recommended cleaning procedure. We understand that there is a valve being developed that can be cleaned in the line without removing it. Perhaps, some day we will have a positive pump that can be used for circulating cleaning solutions. Progress is being made on eliminating these now-necessary hand cleaning operations, but we have a way to go before we have perfected automation in cleaning.

The problems of corrosion and hand cleaning are not the only ones encountered in automation. There are others such as lay-out, available space, investment necessary and others that are usually solved on an individual plant basis.

When adopting automation in cleaning, the system should be set up as efficiently as possible. The savings in labor must pay for the extra investment, so it is essential to take advantage of all possible savings in labor.

ADEQUATE WATER SUPPLY

An adequate water supply should be provided at the circulation tank. A hose will fill the tank but why pay the man to stand and hold the hose while the tank fills? For a very small investment, a water line can be run directly to the tank so that water can be provided in a very minimum of time and with a minimum of labor. If the circulation unit does not include a pasteurizer, a pre-heater or other means of heating the cleaning solution, it may be advantageous to provide a hot water line at the circulation tank also. This will do away with the necessity of the man waiting while the solution is being heated.

If heat must be provided, a thermostatically controlled valve gives proper temperature for circulating solution with no time wasted in hand control. Some health departments, of course, require that solutions be thermostatically controlled. But it is surprising the number of systems still seen where heat is provided with a steam hose.

To save labor, make all circuits as easy to change over as possible. Have change-over pipes cut to the proper length and fastened in place, if this is possible. If the pipes cannot be

fastened, provide enough piping to prevent "pipe snatching" by other departments in the plant. Study and observation may show where many valuable minutes can be saved in the change-over process by merely providing a few extra lengths of pipe.

Valve plugs must still be removed and hand cleaned. Make sure that these valves are located properly for efficient removal and cleaning. A valve can be cleaned much faster if it can be reached from the floor. Climbing a ladder reduces the efficiency we are trying to achieve.

Compressed air may improve automation in cleaning in the future. The product being processed could be blown from the equipment, which would save the product and reduce the water and time necessary for rinsing. If the cleaning solution was blown from the line, the equipment would need less final rinse water. Compressed air might be used for blowing this final rise water from the equipment and for giving it a final drying. If dried with compressed air, opening the equipment for air drying probably would be unnecessary. Very few compressed air systems are being used in automation today. Possibly we are not taking advantage of a very good tool to help us in saving labor.

Equipment Now Cleaned by Automation

A brief discussion of some of the individual pieces of equipment that are cleaned by automation may help in setting up a new installation or in operating an existing installation.

Bottle washers and can washers were probably our first attempts at mechanical cleaning. These have been used for so many years that their proper operation is very well known. In spite of this, however, we still find many plants where this equipment is installed and expected to run indefinitely with no maintenance. Obviously, if the mechanical condition is poor, the spray pressures not adequate, the circulation pumps not working satisfactorily, and if the cleaning solution strength is not properly controlled, we are not going to get satisfactory cleaning. Although this is well known by everyone, it is often neglected and if any manager has not personally checked his bottle washer or can washer recently, it might be well to do so.

Pasteurizers are still washed with a double circulation, using both alkali and acid. Whether the alkali or the acid should be used first is subject to debate. There are advantages to both methods. We prefer to use the alkali first followed by the acid because we feel we can do the job at a lower cost. A relatively large amount of inexpensive alkali in the first circulation will remove most of the soil at a rather small cost. A small amount of acid in the second circulation removes any remaining minerals or films. This method has the disadvantage of leaving the surface of the equipment acid in reaction if rinsing is not complete. To prevent this we often recommend a small amount of a mild alkaline cleaner at the very end of the last rinse. This will neutralize any traces of acid that might be left in the equipment and definitely leaves the stainless steel in an alkaline condition.

MR. SMITH GOES TO TOWN - - in this article on Automation In Cleaning. The subject is one that offers such exciting possibilities that occasionally we are inclined to be alternately frightened and carried away. Mr. Smith, with several years of practical plant experience behind him, keeps his feet firmly on the ground in this discussion. A member of the Technical Service Department of the Wyandotte Chemical Corporation's J. B. Ford Division, Mr. Smith writes with the knowledge of experience.

One of the reasons for improper cleaning of pasteurizers is a high vacuum in the regenerator. This can be decreased by the use of a booster pump at the surge tank. A study was made in one creamery where an excessively high vacuum was found to exist. Although processing time was short, twenty-one pounds of alkali were necessary for proper cleaning. After a booster pump was installed, this cleaner was reduced to ten pounds and cleaning was excellent.

Proper flow rate of the cleaning solution is as important in a pasteurizer as it is in any other equipment cleaned by circulation. Instructions furnished by the manufacturer of the pasteurizer list the amount of cleaning solution that should flow through the press. This is usually rated at 1½, 2 or 3 times the product flow. When the flow rate is known, it can be checked by determining the time necessary to fill a 10-gallon can.

Often a press will have spots of soil on the metal-to-metal contact points. This is often caused by failure to loosen the plates during the cleaning process. Many plant managers claim that there is a possibility of damaging the gaskets or the plates if the plates are loosened. Letters from six major pasteurizer manufacturers state that there will be no damage providing the maximum recommended pressures are not exceeded. Pressure can be determined by connecting a pressure gauge at the outlet of the circulation pump. Loosening the plates has the further advantage of reducing the pressure applied on the gaskets during the cleaning circulation which helps extend the life of the gaskets.

All equipment manufacturers with whom we have corresponded recommend that dairy equipment be opened for inspection and air dried after cleaning. They also recommend that the equipment be left open as long as possible, certainly as long as an hour and best overnight. This not only repassivates the stainless steel but also gives the gaskets a chance to become revitalized. Here we run into the problem of whether to take measures to get the longest possible life out of the equipment or to save the labor necessary to open. Plant managers seem about evenly divided on which is desirable.

We presently are studying a press which is being circulated for approximately 15 minutes with an alkali solution. At the end of this period the circulating pump is shut off, and the alkali solution allowed to remain in the press overnight. In the morning the operator starts the circulating pump, heats the alkali solution to approximately 170° F. and circulates for a short period of time. The system is then flushed, given a quick acid circulation and is ready for sanitizing and use. This press is being watched very closely for any corrosion, and the results may give us some valuable information.

Most homogenizers are now cleaned by circulation. When they are connected with the same circuit that is used to clean the HTST pasteurizer, a partial by-pass must be provided.

Promoting fortified milk? Use Thatcher Amber Quarts

Today's customers are becoming increasingly weight conscious. Keep pace with this trend by promoting fortified, fat-free milk in Thatcher amber quarts. Amber glass protects against vitamin loss and safeguards the quality and flavor of fortified milk.

Like all Thatcher bottles, Thatcher amber quarts are strong, lightweight, dependable containers—give you greater trippage at lowest possible cost.

Heard about **Nu-glas**™ *?*

Thatcher's Nu-glas Process applies a protective coating on bottles right on your filling line. Reduces line breakage up to 50%; bottles remain "new-looking" longer.

Send coupon for free booklet describing Nu-glas.

THATCHER GLASS MANUFACTURING CO., INC.

10 Grand Central Ave., Elmira, N.Y.

Please send Nu-glas booklet to:

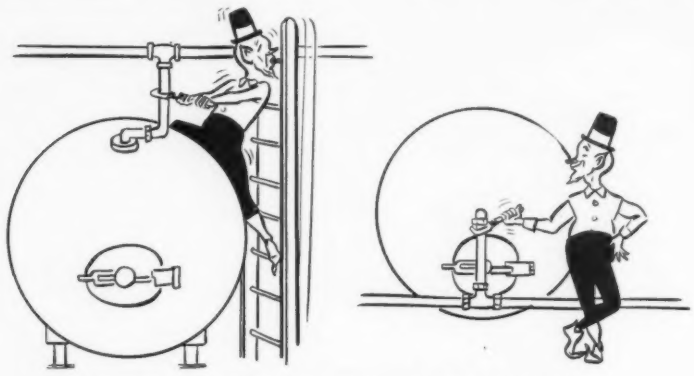
NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

This permits the homogenizer to take whatever quantity of solution it will, and the balance goes through the by-pass. During the circulation, no pressure is put on the homogenizing valve.



NO TOP LINE AIDS CLEANING

Correspondence with some of the manufacturers of homogenizers shows that C.I.P. cleaning is much more practical today with the new nylon gaskets. These gaskets are entirely non-absorbent and thus do not promote electrolytic corrosion. In spite of this fact, however, manufacturers still recommend that the homogenizer be taken apart for inspection and air drying each day.

Practically no vacuum pans or evaporators are cleaned by hand brushing. Although some are still cleaned by circulating the solution under vacuum in the same manner the product is circulated, most are now cleaned with some type of a spraying device. These sprayers save cleaner, reduce the amount of labor necessary and also reduce the down time of the equipment. Several different types of sprayers are available for evaporator cleaning. Probably the most important thing to watch for is rotating sprayers that do not rotate. Some of these rotating sprayers stop rotating during the circulation cycle, and this is not known until the equipment is opened. At this time, it is found that the equipment is only partially cleaned and a good deal of time has been lost.

It does not seem as though any of the spray equipment available today is a complete answer for evaporator cleaning. We are, no doubt, working in the proper direction, but for most efficient and most effective cleaning sprayers should be factory installed during fabrication of the equipment. Some day all sprayers may be an integral part of the equipment.

Pipelines have been long cleaned by mechanical methods and probably more words have been written and spoken about this subject than about any other cleaning operation in the dairy industry. Although C.I.P. cleaning is very well known by everyone, various time saving points are often overlooked.

All single lines, cross connections and valves must be dismantled and hand cleaned. To reduce this hand cleaning to the very minimum, it is important that all single lines running to equipment be as short as possible. Many installations have a line of 10 feet, or even longer, running from the C.I.P. circuit to a vat or to a bottle filler. By merely turning the C.I.P. line and extending it over the particular piece of equipment, the single line that must be hand cleaned would be reduced by many feet. This would save time in hand cleaning.

When tanks are connected to a C.I.P. line, they are often connected with a short nipple to a three way valve. If this nipple is removed for cleaning, much difficulty is found in springing the C.I.P. line enough to allow the nipple to be removed. This difficulty can be avoided by the simple use of two ells connected from the tank outlet to the C.I.P. lines. In addition to being very easy to dismantle and clean, the two ells also allow the line to be properly pitched and aid in complete draining of the tanks.

Mechanical cleaning of storage tanks is just getting under way. There are several devices available for this purpose and the one selected depends on the opinion of the purchaser. Probably the simplest unit available, providing it gave equal results, would be the one to select. There has been much talk about installing spray devices permanently in milk tanks. Eventually, this may become commonplace. At the present time, however, we lack the equipment to do this in a sanitary manner. For example, our pipelines today are made very carefully to prevent any crevices on the inside of the lines. Nothing whatever has been done to prevent crevices on the outside of the line. Therefore, if

(Please Turn to Page 96)

NOW! the most

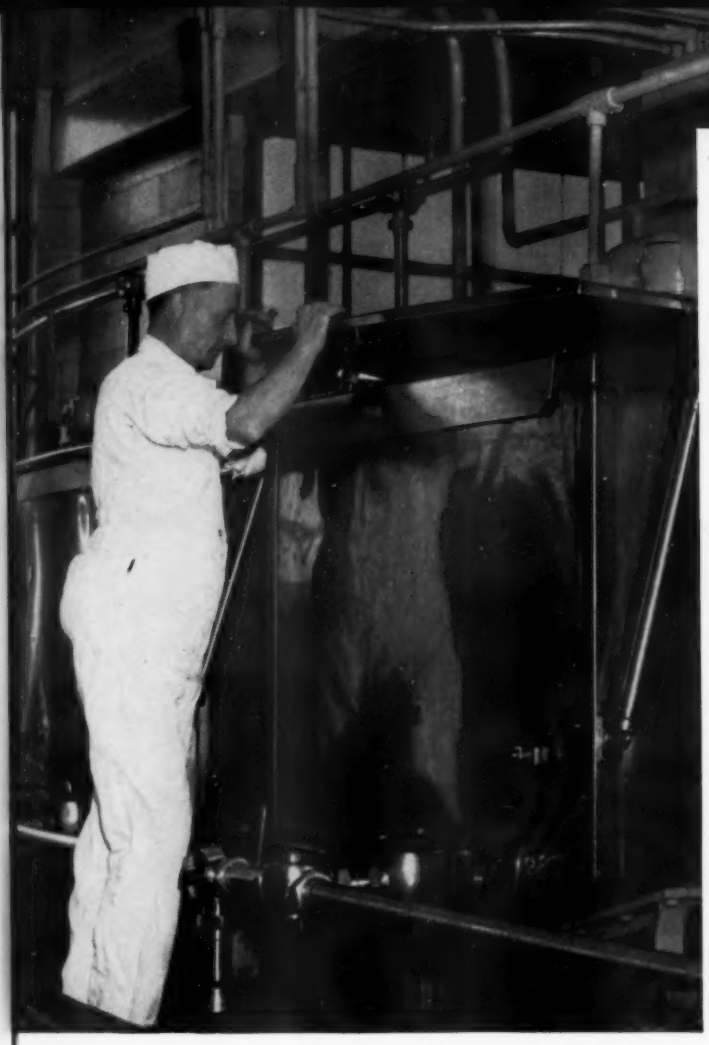
CONVENIENT HALF GALLON

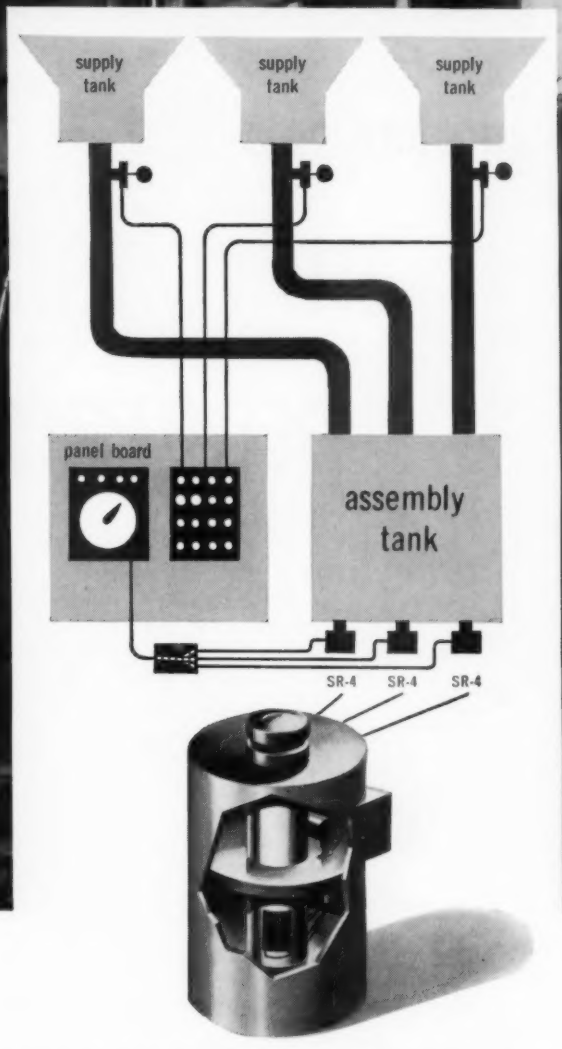
NO extra labor — NO staples

- Make maximum use of your present equipment
- Put consumer appeal on your product in the dairy case
- Use Automatic TWIN PAK for Canco, Pure Pak or Sealking

Handles and bands for 1000 Half Gallons only **$2.95**

Write to: EDLO INC., 191 Eighth Street, San Francisco 3, Calif.





BALDWIN SR-4® SYSTEM MAKES ICE CREAM MIX PROCESSING AUTOMATIC!

- Measures by weight for true accuracy
- Controls mixing to ±1/10% repeatability—automatically
- Compact—easy to install—easy to keep clean

Here is one of the most important steps toward automation ever developed for ice cream mix processing! Baldwin SR-4 Load Cells weigh milk, syrup and water as they flow into assembly tanks. When correct formula proportions are reached, the load cells transmit signals to the recorder-controller, which shuts off the flow by closing the valves. This closed loop system is instantaneously responsive, easy to operate, with an error factor of less than a pint per 100 gallons weighed.

Load cells are easily installed under assembly, storage or flavor tanks. Rugged and compact, they are completely sealed against temperature and moisture—easy to keep clean. A Baldwin SR-4 system for weighing, recording and controlling can be economically installed a step at a time. For example, load cells and indicator instrument can be installed first. They will go right to work giving you weighing repeatability of ±1/10%, helping reduce overruns and waste. Recording and controlling elements can be added at your own convenience.

Let Baldwin engineer and calibrate a system for you and turn your mix processing into a fast, accurate, economical operation—completely automatic! For your free copy of Bulletin 4302, write today to Dept. MR.

BALDWIN · LIMA · HAMILTON

Electronics & Instrumentation Division

Waltham, Mass.

SR-4® strain gages • Transducers • Testing machines

BALDWIN BLH LIMA-HAMILTON

XUM

NOW AVAILABLE TO ALL SEALON DAIRIES

another new Sealright

merchandising program to

Increase Home Delivery Sales*

A brand new 1957 merchandising program is now available to all Sealon Dairies. This exclusive program, Home Delivery Hints, will prove to be a valuable addition to your advertising and public relations programs. It will create goodwill and attract new business, help promote the sale of profitable by-products, and impress customers with the importance of good dairy service. Everything is here, including attractive money-saving premium offers.

Sealright welcomes the opportunity to assist you with this new Retail Milk Program. Sealright Merchandising Department will be glad to send you the complete information kit... it's yours for the asking.

Another Merchandising exclusive from:
Sealright Co., Inc.

*By-products too!

XUM

8 page book

12 editorial column ads

3 5 minute radio programs

By Fran Parran

Sealright

Sealright-Oswego Falls Corporation,
Fulton, N. Y.—Kansas City, Kansas
Sealright Pacific Ltd., Los Angeles, California
Canadian Sealright Co., Ltd., Peterborough, Ontario, Canada.

Send coupon for more information and sample kit.

AMR 657

Sealright Co., Inc., Fulton, New York

Please send me a Home Delivery Hints, Retail Milk Program sample kit.

We use Sealons ☐ We do not use Sealons ☐

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

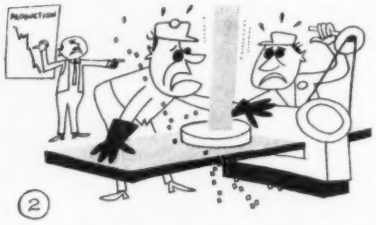
CITY _____ ZONE ____ STATE _____

RIGHT or WRONG in Labor Relations

A round-up of day-to-day in-plant problems and how they were handled by management men. Each incident is taken from a true-life grievance which went to arbitration. Names of some principals involved have been changed for obvious reasons. Readers who want the source or citation of any case may write to *American Milk Review*, 92 Warren St., New York, N. Y.

Can You Discipline a Worker Who Deliberately Slows Down After Griping About His Incentive Rate? What Happened:

Gene Donato and Charles Gluntz had been griping about the incentive rate on their jobs for some time. There'd been a lot of talk but the company hadn't changed the rate. The men's output dropped. The foreman



urged them several times to bring their production up to par. They kept up the snail's pace. Then the assistant superintendent warned them they'd be penalized if they didn't get a move on. No improvement. So they were given a three-day layoff for deliberately slowing down. The men insisted it hadn't been deliberate:

1. During the time our output dropped we were working on material much thicker than usual. It took us a lot longer to remove the scrap.

   Also the chips were larger and were flying all over the place. We had to work slower or we'd have been hurt.

   What's more, the cutting tools had to be changed more often, which slowed things down.

2. Some of the stock we were getting was much wider than usual. So we had to run it through twice. Each re-run meant two operations, but only one piece on the books.

The company countered:

1. Tool breakage has occurred at the same rate for years and it didn't change any during the period in question.
2. A number of safety measures have been introduced in recent years and the hazard from flying chips is under better control now than ever before.
3. It's decidedly more than mere coincidence that the drop in production followed a series of complaints about the incentive rate for that job.

Was The Company:

RIGHT ☐ WRONG ☐

What Arbitrator Ralph Seward ruled: "Production did not drop as much as the company claims and the records would seem to indicate. The comparative figures offered by the company are misleading. The figures seem to reveal some correlation between thickness of the plates processed and the number of plates produced per hour. This would tend to substantiate the claim that the thicker plates result in longer scrap-cleaning delays and more tool trouble. The evidence leaves little question but that an increase in the thickness of the plates increases the hazards of the job from flying scrap. It seems reasonable to conclude that part, at least, of the drop in production was due simply to increased caution and a desire to avoid injury. The company has failed to establish that the grievants were guilty of a deliberate slow-down. A drop in production occurred, but how great it was and WHY it occurred has not been made clear. The evidence leaves room for so many possible causes other than a deliberate slow-down that the umpire cannot hold that the justice of these penalties has been established. The grievances are upheld."

Must You Pay the Higher Rate to a Worker Temporarily Assigned to a Higher Job, Though He Doesn't Do All of It?

What Happened:

Jim Brown had more work than he could handle one day. So a couple of girls on a lower-rated job were assigned to help him with some of his lighter chores. The girls got their

usual pay for this work. They claimed they were entitled to the same higher wage that Jim Brown got because:

1. At the most, only 10% of Brown's tasks are the heavier work which we didn't do.
2. In any event, the contract doesn't say anything about how much of the higher job we have to do to get paid the higher rate.

The company countered:

1. By no stretch of the imagination could it be considered that the girls were doing Brown's job

(Please Turn to Page 97)

The gas that keeps the GO in stop-and-go driving

...GOOD GULF!

Light load, low temperature, stop-and-go driving—on tight schedules, day after day—is just about the toughest treatment your truck engines can get. For dependable, top engine performance, use Good Gulf gasoline!

Good Gulf is cleaner burning. It fights harmful deposits which cause cylinder wear, starve lube systems, steal engine power. It helps you avoid troubles caused by sticking valves, sticking carburetor parts. Gum-free Good Gulf helps your engines deliver their full-rated power and top mileage.

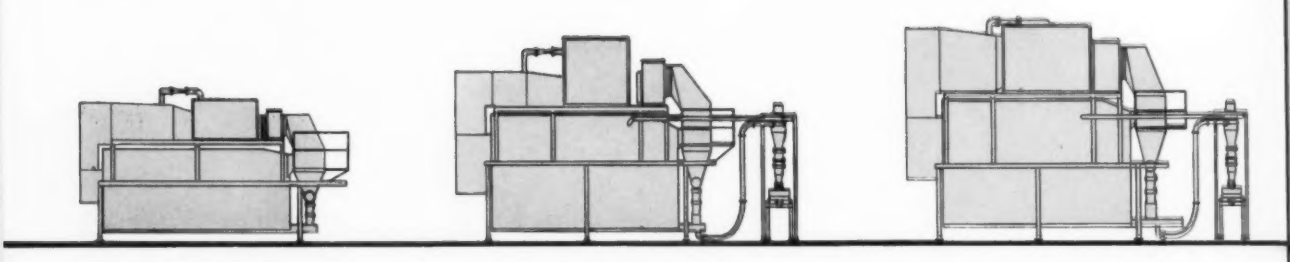
The perfect teammate for Good Gulf gasoline is Gulf Traffic Motor Oil S-1 . . . new economy oil specifically developed for stop-and-go operation. For greater all-around fleet economy, use Good Gulf gasoline and Gulf Traffic Motor Oil S-1. Call your nearest Gulf office.

GULF OIL CORPORATION
1822 Gulf Building
Pittsburgh 30, Pa.

GULF®

THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

HOW MUCH MILK DO YOU WANT



100 LBS/HR 1000 LBS/HR 1500 LBS/HR

BLAW-KNOX SPRAY DRYERS CA

100 POUNDS AN HOUR....T

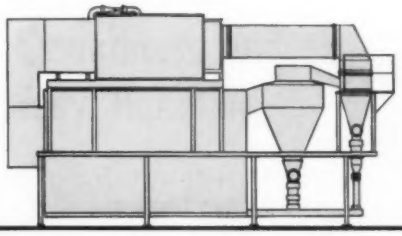
An ever increasing, never ending milk supply is forcing many dry milk operators to look for high capacity spray drying equipment.

To keep ahead of this trend Blaw-Knox has been constantly improving and enlarging its spray dryer line until now, with over 200 Blaw-Knox spray dryers installed, a virtually unlimited range of styles and sizes are available to fit the needs of your drying plant.

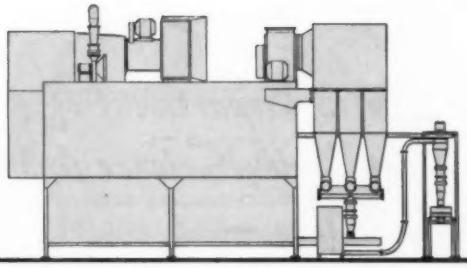
Why not call or write us today so that we can help with your plans for expansion or modernization.

STAINLESS STEEL MILK PROCESSING EQUIPMENT

POWDER TO MAKE.....?



1500 SPECIAL



2000 LBS/HR

AND UP!

CAN GIVE YOU ...TO OVER 20 TONS A DAY

BUILT-IN VERSATILITY FOR SPECIALTY PRODUCTS

- interchangeable atomizing heads to vary particle size of custom marketed powders; nonfat milk, whole milk, dietetic foods, whey derivatives, special mixes.
- two stage continuous powder collecting system with primary and secondary collectors.
- steam or direct gas fired heating, or combination.
- positive powder removal regardless of humidity by combining mechanical and pneumatic conveying.
- completely automatic push button controls from fluid feed to packaged product.

BLAW-KNOX **BLAW-KNOX CO.** DAIRY EQUIPMENT DIVISION MORA, MINNESOTA

The United States Department of Agriculture and the American Dairy Science Association Have Developed a New —

DAIRY FARM SANITATION REPORT

Several years ago the U. S. Department of Agriculture in cooperation with the American Dairy Science Association developed a Dairy Farm Score Card. In 1953 a committee from the American Dairy Science Association was appointed to work with the U. S. Department of Agriculture in revising the score card that had been in use for many years. The score card was revised and has been printed by the Dairy Husbandry Research Branch of the U. S. Department of Agriculture.

Those who would like to have copies of the Dairy Farm Sanitation Report and the interpretation of items may secure a limited number by writing to U. S. Department of Agriculture, Agricultural Research Service, Dairy Husbandry Research Branch, Beltsville, Maryland.

FACILITIES REQUIRED

1. Health of Cows

Tuberculin Test. The herd shall be free of tuberculosis as provided under the modified accredited area system approved by the Animal Disease Eradication Division, Agricultural Research Service, U. S. D. A., or as determined by annual tuberculin tests.

Brucellosis Test. The herd shall be brucellosis tested and under an approved plan of eradication of the Animal Disease Eradication Division, Agriculture Research Service, U. S. D. A. In areas that do not require testing for brucellosis, the local or state regulation on this item will be acceptable. It is recommended, however, that all areas adopt an approved plan of brucellosis control.

Evidence of the tuberculin and brucellosis tests shall be a certificate identifying each animal, signed by the veterinarian and filed as directed by the regulatory officer.

Mastitis Program. The strip cup or other approved test shall be used at each milking on each quarter. Abnormal milk or milk from suspicious or diseased quarters shall be discarded. When cows are treated for mastitis by infusion of the udder, the milk from the treated quarter(s) shall be excluded from the supply for at least 72 hours after the last treatment. When diseased quarters are detected, the affected cow shall be milked last or in such manner that infected milk will not contaminate the milking equipment that is used on the remainder of the healthy cows.

Apparent Health of the Herd. The milking herd shall be observed closely for evidence of disease by the milker or owner and regulatory representative. When the evidence demonstrates that it is advisable, the sanitarian may

WOW! WHAT A CRATE!

A STODDARD Crate . . . For Protection, Durability, Cleanliness and Easy Handling

During the next three months, milk consumption will pick up in our vacationlands. To meet the demand, order crates now . . . and order the best . . . STODDARD. Check the many features of STODDARD crates and their *F. O. B. your city* price. You'll see why it pays to choose STODDARD.

LEFT Order STODDARD all-wire crates for complete paper bottle protection. Continuous side and bottom wires; double bottom; formed handholds with exclusive anti-slip hook holds; and smooth chromate coating give protection you can see.

RIGHT Eliminate crate and bottle damage with the STODDARD "no-sag bottom" crate. Conveyor tailored rounded bottom edges; a full ½ inch reinforced stacking ring; steel corners; and a choice of wire, wood or sheet steel bottoms are features that give you full protection, fast product handling and long crate life.

STODDARD CRATES

MILK BOTTLE CRATE COMPANY

1545 Kingsbury Street, Chicago 22, Illinois

PHONE: MOHAWK 4-1650

DIVISION OF STODDARD MANUFACTURING COMPANY

XUM

require an examination of the herd by a licensed veterinarian. The instructions of the veterinarian must be followed concerning isolation or segregation of sick animals.

2. Milking Area

A conventional milking barn, or milking barn or parlor and loose housing, or combined milking systems shall be provided. It shall be of such size and arrangement as to to eliminate overcrowding, promote good health of the cows and carry on normal milking operations without impairing the quality of the milk. The milking area shall have watertight floors and gutters (constructed of concrete or equally satisfactory material) graded so as to drain properly and shall be kept in good repair. Walls and ceilings shall be reasonably smooth, tight, dustproof, and covered with a material that is easily kept clean. Sufficient light (properly distributed) shall be provided for milking during the day or night. There shall be adequate ventilation for the health of the cows and to eliminate excessive odors and moisture. When conditions warrant, a milking barn without four walls extending from floor to roof may be approved provided precautions are taken to prevent fowl, swine, etc. from gaining entrance and provided adjacent areas are constructed and maintained so as not to have an adverse effect on the quality of the milk.

3. Milk House or Room

A milk house or room shall be provided in which the cooling, handling, and storing of milk and milk products, and the washing, bactericidal treatment, and storing of milk containers and utensils shall be done. It shall be of sufficient size to provide adequate unobstructed working space and located convenient to or in the milking barn giving consideration to sanitation features. It shall not open directly into a room used for domestic purposes. The floor of the milk house shall be concrete or equally satisfactory material and constructed in such a manner that it will drain properly. The walls and ceilings shall be tight, smooth, and covered with a material that is easily kept clean. Sufficient light shall be provided to permit necessary operations day or night. Ventilation shall be provided to eliminate odors and excessive moisture in the milk house. All openings to the outside shall be screened. The floors, walls, ceilings, windows, doors, screens, and ventilation shall be kept in good order. All doors shall open outward only and be self-closing.

4. Utensils and Equipment

All multi-use containers, equipment, and other utensils used in the handling, storage or transportation of milk or milk products shall be made of smooth nonabsorbent, noncorrodible, nontoxic material, shall be so constructed as to be easily cleaned and shall be kept in good repair. Single-service strainer pads shall be used when milk is strained. All single-service articles used shall have been manufactured, packaged, transported, and handled in a sanitary manner.

Utensil Storage. All milk utensils shall be left in a treating chamber until used; or left in a bactericidal solution; or stored in the milkhouse or racks, in such a manner as to protect them from contamination, inverting such articles as can be inverted. Storage racks should be constructed of metal and protected against rust. Strainer pads, parchment papers, and gaskets shall be kept until used, in the original package with covers closed, or stored in a suitable container or cabinet and protected from contamination.

Washing Facilities. Sufficient hot water at a temperature of at least 120°F. shall be available in the milk house to wash utensils and equipment after each milking. A two compartment wash vat shall be provided and used only for washing, rinsing, and bactericidal treatment of milk handling utensils and equipment.

5. Cooling Facilities

Mechanical refrigeration or cold well water is acceptable for cooling milk provided there is adequate capacity to cool the milk to 50°F. or less within 2 hours after completion of milking and for holding it at this temperature or lower until it is delivered. Where this requirement would work an undue hardship on producers and the supervising agency is assured that all of the uncooled milk would be delivered to the milk plant or receiving station within 2 hours after completion of milking, this item shall be deemed satisfied.

6. Water Supply

Water for all dairy purposes shall be from a supply properly located, protected, and operated, and shall be easily accessible, adequate, and of a safe, sanitary quality.

7. Toilet and Sewage Disposal

Every dairy farm shall be provided with one or more sanitary toilets, conveniently located, and properly constructed so that it can be properly operated and maintained to make the waste inaccessible to flies, to avoid pollution of the surface soil and contamination of any water supply.

SANITARY METHODS

8. Milking Procedure

The cows shall be free of visible dirt at the time of milking. If necessary, flanks, udders, and tails of cows should be clipped regularly to facilitate keeping the cows clean. Loose hair, dust and extraneous material shall be removed from udders, teats, and flanks before milking. The strip cup or other approved test shall be used at each milking on each quarter. The fore milk in the strip cup and abnormal milk shall not be sold. Abnormal milk is milk from cows treated with antibiotics within 72 hours; milk that is abnormal in appearance; and milk that is shown by the mastitis test to be abnormal. Also, milk shall be practically free from colostrum. The milk shall be carefully protected at all times. Straining is permitted in the barn only when the barn scores high on cleanliness, ventilation and freedom from flies and if straining is protected against contamination.

The appearance of the dairyman should be neat, his clothes clean and his personal habits such as to produce good quality milk. He should be apparently free from disease.

When sanitary conditions are questionable, the score on milking details must be obtained by inspection during the milking operation. It is recommended that as many inspections as possible be made during the milking operation.

9. Milking Barn

Walls and ceilings of the milking barn shall be reasonably free from foreign materials and dust. Floors and gutters to which cows have access shall be cleaned daily, preferably during the forenoon. Manure shall be removed and disposed of in such a manner as to be inaccessible to cows

Form Approved
Budget Bureau No. 40-R2895

XUM

DH-28
(2-57)

Form Approved
Budget Bureau No. 40-R2895

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE
DAIRY HUSBANDRY RESEARCH BRANCH

DAIRY FARM SANITATION REPORT

(Approved by the American Dairy Science Association)

FARM NUMBER	DATE
	TIME AM PM

OWNER	MILK GRADE
ADDRESS	NUMBER OF GALLONS DAILY
PERSON INTERVIEWED	DELIVERED TO

FACILITIES REQUIRED (Indicate non-compliance by marking (X) in the appropriate boxes)

☐ 1. HEALTH OF COWS — Date

Tuberculin tested . . . . . _____
Accredited . . . . . _____
Brucellosis tested, if required . . . . . _____
Veterinary Examination, if required . . . . . _____

_____
_____
_____

☐ 2. MILKING AREA
Housing & Milking Barn? . . . . . _____
Milking Barn or Parlor? . . . . . _____

☐ 3. MILK HOUSE OR ROOM

☐ 4. UTENSILS AND EQUIPMENT

☐ 5. COOLING FACILITIES
Method Used . . . . . _____

☐ 6. WATER SUPPLY

☐ 7. TOILET AND SEWAGE DISPOSAL

SANITARY METHODS (Indicate unsanitary conditions by marking (X) in the appropriate boxes. Add descriptive comments as necessary. See other side for grade & score instructions).

8. MILKING PROCEDURE — Perfect Score 20 — Grade ____ — Score ____

Was milking inspeeted ? ( ) yes ( ) no Method used (circle One) hand pipeline machine

Was Mastitis test used ? ( ) yes ( ) no Kind of test _____

( ) Cows clean ( ) Udders washed
( ) flanks, udders and tails clipped
( ) milkers hands clean
( ) clothes clean
( ) health of dairyman
( ) appearance of dairyman
( ) milk moved immediately to milkroom
( ) abnormal milk not sold

9. MILKING AREA — Perfect Score 15 — Grade ____ — Score ____

( ) Walls and Ceiling clean
( ) Floors and gutter clean
( ) Free from flies
( ) Free from other animals
( ) Bedding ample and clean
( ) Manure removed daily
( ) Manure inaccessible to cows
( ) Barnyard clean
( ) Barnyard well drained
( ) Loose Housing properly maintained

10. MILK HOUSE OR ROOM

This Is a Copy of Dairy Farm

( ) Walls and Ceiling clean
( ) Floors and gutter clean
( ) Free from flies
( ) Free from other animals
( ) Bedding ample and clean
( ) Manure inaccessible to cows
( ) Barnyard clean
( ) Barnyard well drained
( ) Loose Housing properly maintained

15 ____ ____

10. MILK HOUSE OR ROOM

( ) Clean ( ) Free from flies ( ) Used for milk handling only

10 ____ ____

11. UTENSILS AND EQUIPMENT

( ) Clean ( ) Properly stored
( ) Approved procedure used for sanitizing utensils and milking machines

25 ____ ____

12. COOLING MILK

( ) Temperature of cooling medium ____ °F. and/or milk ____ °F.
( ) Milk delivered to plant at 50°F. or less or
( ) Delivered to plant within 2 hours after milking if approved
( ) Cooling medium sanitary

15 ____ ____

13. TOILET AND SEWAGE DISPOSAL

( ) Sanitary maintenance ( ) Sewage and Waste properly disposed

10 ____ ____

14. GENERAL PREMISES

( ) Neat and clean

5 ____ ____

TOTAL SCORE .... 100 ____ ____
FARM RATING ....

SUPPLEMENTAL INFORMATION
(Based on last four records)

BACTERIAL COUNTS				
Raw (Method ____)	____	____	____	____
Thermoduric	____	____	____	____
TEMPERATURES	____	____	____	____
SANITATION SCORES	____	____	____	____

REMARKS

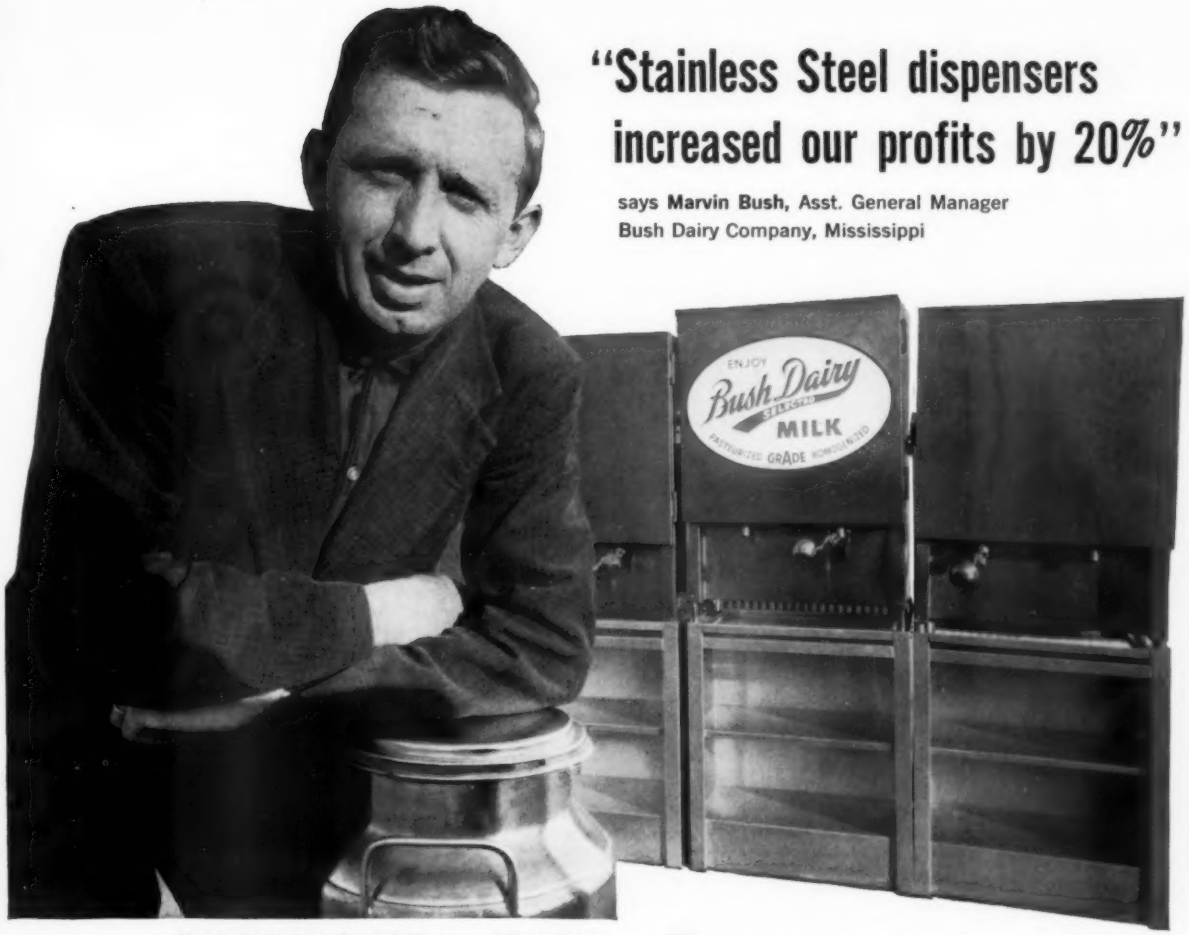
Dairyman *Sanitarian*

ry Farm Sanitation Report

XUM

"Stainless Steel dispensers increased our profits by 20%"

says **Marvin Bush**, Asst. General Manager
Bush Dairy Company, Mississippi



Marvin Bush, Asst. General Manager of Bush Dairy. Three Stainless Steel dispensers are in background.

Waitress draws cup of dispenser milk. Customers claim that the milk tastes better and is colder.

THE BUSH DAIRY COMPANY sells about 1¼ million pounds of milk a month. They serve 10% of Mississippi's area, and supply about 5% of the milk consumed in the state. About eight years ago, they began installing Stainless Steel milk dispensers in restaurants, and the plan met with instant success.

Restaurant owners liked the new dispensers because they were more convenient and eliminated cumbersome inventory problems. More than that, Bush offered the milk in bulk at a savings of 18%. Milk sales increased 10% to 15% in restaurants that had dispensers, and in one restaurant, the milk sales shot up a handsome *40%*.

Cost figures for the dairy were even more spectacular. Personnel costs dropped 50%, work time was cut 20%. Best of all, *profits* are *up* 20%.

If you're considering dispensers, write for more information to: United States Steel, 525 William Penn Place, Pittsburgh 30, Pa.

UNITED STATES STEEL CORPORATION, PITTSBURGH
AMERICAN STEEL & WIRE DIVISION, CLEVELAND
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO • NATIONAL TUBE DIVISION, PITTSBURGH
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALABAMA
UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS **USS STAINLESS STEEL**

SHEETS • STRIP • PLATES • BARS • BILLETS • PIPE • TUBES • WIRE • SPECIAL SECTIONS

UNITED STATES STEEL

XUM

and to prevent breeding of flies. The milking barn shall be reasonably free of flies. Hogs, pigeons, poultry and other objectionable animals shall be excluded from the milking barn. The barnyard shall be properly graded and drained to prevent the accumulation of muddy areas. Waste from pigpens, barns, and milk house shall not drain into the cow yard. Manure, soiled bedding, and waste feed may not be stored or permitted to accumulate in the loose housing area in such a manner as to permit the soiling of cows' udders and flanks, and it shall be maintained in such a manner that it provides a reasonably firm footing for the animals. Excessive accumulations of waste animal feed shall be considered a violation of this item.

10. Milk House or Room

The floors, walls, windows, shelves, tables, wash vats, and other milk room equipment shall be kept clean. The milk room shall be kept free of trash and articles not used in milk room work.

Approved insecticides and other effective fly-control measures shall be used to eliminate flies from the milk house. However, care must be taken to protect the milk and milk room equipment from contamination.

11. Utensils and Equipment

Containers, utensils, and equipment with which milk comes in contact during milking, straining, cooling, handling, storage, or transportation of milk shall be thoroughly cleaned after each usage. Cleanliness may be determined by sight, touch, or smell, by wiping with tissue or filter paper, and/or by other approved methods.

For storage of utensils, see Utensil Storage under Item 4 above.

Sanitizing Utensils and Milking Machines. The application of any method or substance for the destruction of pathogens, and of other organisms as far as is practicable, which is effective and which does not adversely affect the equipment, the milk or milk products, or the health of the consumers shall be considered satisfactory compliance. All milk contact surfaces must be wetted by the bactericidal solution. Bactericidal sprays may be used for large equipment. Bactericidal treatment is not effective unless the surface has been thoroughly cleaned. Chemical solutions, once used shall not be reused for bactericidal treatment of utensils during subsequent milkings.

12. Cooling Milk

The milk must be delivered to the dairy plant at 50°F. or less unless prior approval has been granted as outlined under Item 5. The cooling medium shall be kept clean and free from odor.

13. Toilet and Sewage Disposal

The toilet shall be operated and maintained so that the waste is inaccessible to flies and cows and does not pollute the surface so that it will contaminate any water supply. Waste from milk houses and other buildings shall be disposed of properly. There shall be no evidence of human excreta in the milking barn or areas adjacent thereto.

14. General Premises

The premises shall be neat and clean and maintained in such a manner that a consumer would have a favorable impression should he see or visit the dairy farm.

A Complete Line of Approved Can Fillers

Fort Wayne Air Operated Can Filler
Quick, Accurate Filling for All Size Cans

50 Years Service to the Dairy Industry

The Hydro Can Filler
Water Operated — For 5 Gallon and Smaller Cans

The Barrett Can Filler
For Filling All Dairy Products

Consult Your Jobber or Write to

Fort Wayne Dairy Equipment Co.

Box 269

FORT WAYNE, INDIANA

MAN! That bottle's been Girton Cleaned!

Yes, Girton Washers produce extra sparkling clean bottles — and, they do it continuously—giving you the type of dependable service needed in today's automatic operations where breakdowns are costly.

Girton Bottle Washers are compact. They save as much as 8½ square feet of valuable floor space over other machines of the same rated capacity—yet, because of their many superior operating features, they out perform other washers of larger size.

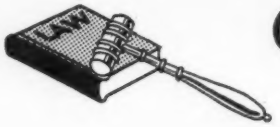
Operators Like Girton Washers

There are no backaches for the man operating a Girton Washer. Notice how he stands perfectly erect, yet every bottle is within easy reach.

CAPACITIES . . .
From 16 to 120 bottles per minute
Washing ½ pints through ½ gallons

See your Girton Jobber or write for complete bulletin.

GIRTON MANUFACTURING COMPANY
• MILLVILLE, PA.



ON THE LEGAL SIDE

By ALBERT W. GRAY

MILK CONTROL STATUTE SUSTAINED

In an attack on the present price fixing statute governing the Florida milk industry it was contended in a recent legal action, first, that the milk industry was not a business affected with a public interest that warranted legislative price fixing; second, that such a statute violated the due process clause both of the Federal and state constituents; third, that any temporary emergency justifying such an act had long passed and fourth, that the police power of the state depriving citizens of the freedom of contract during the emergency could not be continued under the guise of a continuing emergency.

This suit had been brought by the Florida Milk Commission against a Miami store, asking the court to prohibit the sale of milk by this store at prices below those set by the Commission. In sustaining the decision of the lower court holding this law constitutional and upholding the order of the Milk Commission of that state, the Florida Supreme Court said,

"The general theory on which these cases proceed is that the milk industry is affected by elements of instability peculiar to the business that call for special control. It is one of the paramount businesses of the country and is geared to the health and welfare of the people as well as the producer.

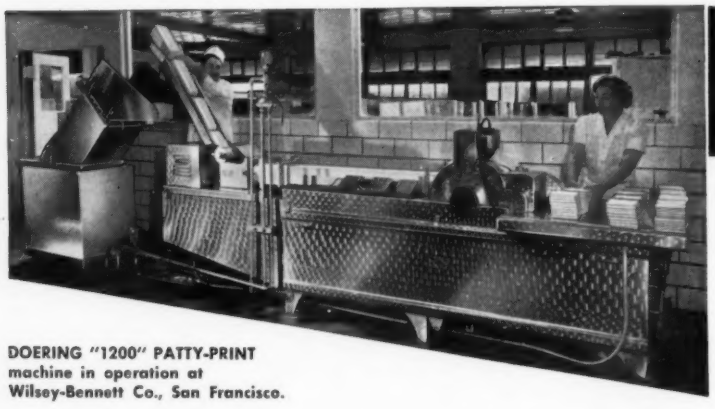
"Milk is perishable and cannot long be stored. It is essential to a balanced diet. Babies could not subsist without it. In fact it is their primary medium of diet for the first year and it is settled that it is essential to the health of adults. If babies could vote as strong as cotton, beef, pork, corn, wheat, potatoes, peanuts and other commodities, the price of which is 'pegged' at 'parity' or close to it, the question raised here would have long been settled.

"This and other factors require safeguards to milk production and distribution that add materially to its cost. Safeguarding its purity and wholesomeness requires a vigilance greater than is required to preserve the purity of any other food product."

F.T.C. PRICE DISCRIMINATION SUIT

CHARGING A VIOLATION of the anti-trust laws prohibiting price discrimination, the Federal Trade Commission issued a complaint against the Borden Company in New York City and two of its subsidiaries, Sylvan Seal Milk and 612 Corporation, of Philadelphia.

In this complaint it was asserted that these companies had been and were discriminating in prices in the sale of milk products to their customers. In Wilmington, Delaware, according to the Commission, customers in June, 1955 were charged substantially lower prices than in Pennsylvania and New Jersey, differences in prices in these areas ranging 7½ cents per half gallon or 3¾ cents per quart, while in October, 1956, Wilmington area dealers were charged 7 cents per half gallon less than dealers in Pennsylvania. In addition to these charges, it was contended further by the Commission in this action that both the Borden Company and the Sylvan Seal Milk had allowed favored customers cash purchase discounts of 2 percent.



DOERING "1200" PATTY-PRINT machine in operation at Wilsey-Bennett Co., San Francisco.

* You Need Doering *

SELF-LIQUIDATING

PATTY-PRINT MACHINES

FAST, PROFITABLE, ECONOMICAL, AUTOMATIC PRODUCTION. Soon pay for themselves in cost savings. New model makes 400 lbs. of perfect patties per hour with only one operator. Large machine shown makes 1,200 lbs. per hour with only 2 operators.

Also 5 sizes of BUTTER PRINT MACHINES.

Write for full details.

C. DOERING & SON, INC.
1375 W. Lake St., CHICAGO 7, ILL.

Liberty

means Freedom

from Bottle Worries

YOUR 3 GUARANTEES OF FREEDOM

Flame Polish
Thermal Shock Proof-Test
Protective Coating

Liberty Glass Company
SAPULPA, OKLAHOMA

A Sales Manager Reports on a Successful Promotion Built Around a Premium Product

Multi-Vitamin Milk Scores Heavily For Wisconsin Firm

By THOMAS NORTON

A CAMPAIGN we have just completed to introduce a premium milk in half gallons has paid off so well for our company, Shurtleff's Ice Cream Co., Janesville, Wis., that I think other dairies of our size could profit by our experience.

Our premium product was multi-vitamin milk in half-gallon amber bottles. We ran a campaign to convert our regular milk customers to this new milk. The total cost of our campaign was about $1,700.

The results were these:

Over a seven-week period we converted 78 percent of our customers to the new milk.

Our men are sold on the new milk and so are our customers. How well they are sold is reflected in the early results of a new campaign we are running to get more customers. In the first two weeks of the new campaign our men have averaged seven new customers per route per week.

We think these results are especially significant in our case because they show that a milk operation of moderate size with a modest budget can achieve startling success with a premium campaign.

Although Shurtleff's Ice Cream Company is a good size operation, the major part of our business is ice cream. It was our first product when George Shurtleff founded our company in 1878, and it remains the product on which we have the broadest sales coverage.

But, ever since we started in the milk business in 1923, we've been deeply interested in developing our milk sales so they will compare favorably with ice cream sales. We've come a long way in this endeavor, and our new campaign promises to push us along at an accelerated pace.

Thomas Norton is Milk Sales Manager with Shurtleff's Ice Cream Company. It was Mr. Norton, teamed up with General Sales Manager Albert E. Amundsen, who staged the successful premium milk promotion. In this article Mr. Norton relates what happened along with the reasons for going into the premium milk.

We operate eighteen retail milk routes and three wholesale routes. Our sales area for milk is Janesville, Milton Junction and Milton, Wisconsin. Our problem in achieving effective and rapid growth on milk sales is the same as everybody else's problem: how to keep a good competitive position in our market.

In our market the competition is chiefly in gallons and half gallons. A wide introduction of milk in gallon bottles in 1954 pushed our market into large containers. We had to meet this competition. We were not greatly attracted to the idea of jumping from quarts to gallons. Furthermore, we couldn't compete profitably with gallons priced at 74 cents, as they were here.

To meet our competition, we offered half gallons of homogenized milk at a straight price of 43 cents per half, or two halves—a gallon—for 79 cents.

Our hunch was that a housewife who preferred to buy milk, a gallon at a time, would be willing to pay more to have it in two half-gallon containers. We were right. Our two-half gallons, at a five-cent higher price than milk in one-gallon containers, held our retail customers and has given us a steady growth.

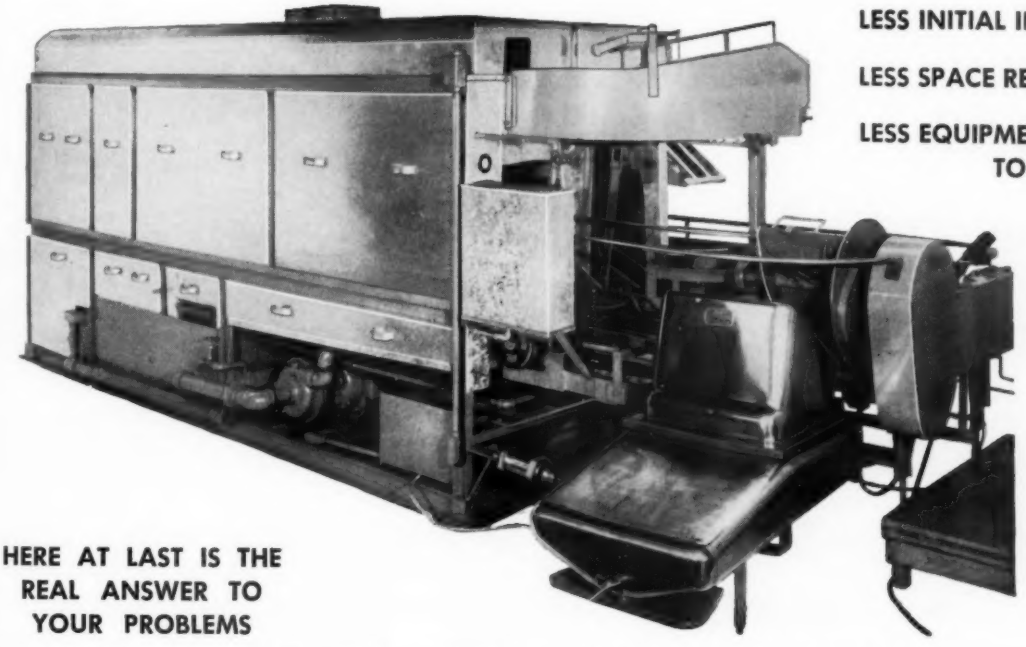
This year we felt that a new milk product would be more effective than our homogenized milk in increasing our customers. Charles H. List, the representative for Vitex Laboratories in this area, suggested that we offer multi-vitamin milk in half gallons. We decided that this was the new product we needed.

To obtain the maximum advantage of the product, we decided to offer it

(Please Turn to Page 62)

SAVE $$$
SAVE SPACE

WITH THE NEW *Kendall* 150° AUTOMATIC
DUMPING SYSTEM



LESS INITIAL INVESTMENT

LESS SPACE REQUIRED

LESS EQUIPMENT TO MAINTAIN

HERE AT LAST IS THE REAL ANSWER TO YOUR PROBLEMS

The first fully automatic milk receiving operation, complete in one package. Just think — one man can handle all the milk coming into your plant — take composite samples — record weights with no interruption between patrons at speeds up to 16-18 C.P.M.

PROVIDES

Greater sanitation . . . Better control . . . More accurate composite samples . . . Less operator fatigue . . . Less steam required to operate . . . Less power required (One Power Unit) . . . Fewer wearing parts . . . Plus the regular features which have made Kendall Washers the watch word of the Dairy Industry for over 29 years

LET KENDALL EQUIPMENT DO THE JOB FOR YOU AND PAY FOR ITSELF IN SAVINGS.

KENDALL-LAMAR CORPORATION

POTSDAM, NEW YORK

"First in Design, Efficiency and Service"

L. A. Parks, Company Engineer
". . . Easier loading, fresher products . . ."

HERE'S WHY WHITING MILK COMPANY NOW USES

"The Switch From Ice To The All-electric Refrigeration System Makes Loading Easier, Keeps Products Fresher," Says Company Engineer L. A. Parks.

During the past six months Boston's progressive Whiting Milk Company has carried out an extensive fleet modernization program. To date, 145 new trucks have been purchased and equipped with all-electric refrigeration powered by General Electric. In the near future, Whiting expects to convert its entire fleet of trucks to the all-electric refrigeration system.

According to Mr. Parks, Whiting's decision to switch from traditional methods of refrigeration was based on the desire to make longer runs, speed loading, and deliver fresher, cleaner products.

Whiting is an outstanding example of the many progressive dairies that have discovered the benefits of all-electric truck refrigeration—constant temperatures throughout the run; fresher, cleaner products; reduced truck body rust; and less driver fatigue.

If you must maintain constant temperatures during delivery—if you can benefit from 24-hour truck refrigeration—if you are interested in a system that provides overnight plug-in operation without "extra" components—it will pay you to discuss all-electric truck refrigeration with your equipment supplier.

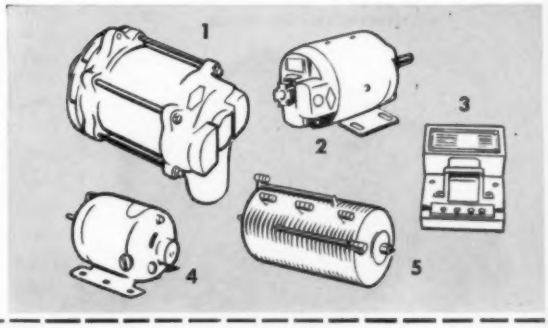
GENERAL ELECTRIC

MORE PAYLOAD is made possible by small, compact system. Moisture is virtually eliminated to reduce truck rust.

CONSTANT TEMPERATURE is provided by the rugged G-E alternator which operates off the truck engine for en-route cooling.

145 ELECTRICALLY-REFRIGERATED TRUCKS

LONGER DELIVERY RUNS mean increased business. No longer does diminished cooling shorten the effective duration of deliveries.



ELECTRICAL COMPONENTS for all-electric truck refrigeration: (1) alternator, (2) compressor drive motor, (3) voltage regulator, (4) evaporator-fan motor, (5) selenium rectifier.

ACT NOW! Send for FREE bulletin

Section D 634-13
General Electric Company
Schenectady 5, New York

Please send me your new bulletin GEA-6084B describing the benefits of all-electric truck refrigeration powered by General Electric.

NAME.....

COMPANY.....

STREET.....

CITY.....**ZONE**.....**STATE**.....

XUM

EASY HANDLING
LONG LIFE
ASSURED IN EVERY

ERIE
CRATE

Every dairyman knows it's natural for milk crates to get rough usage. It can't be helped. That's why milk crates that are easy to handle and give long, dependable service are most in demand. Superior design and outstanding construction features have made Erie Crates favorites in the industry for over 30 years.

ERIE MODEL E
for square glass milk bottles

ERIE
MODEL E-PC
for paper milk containers

MEMBER NATIONAL DAIRY COUNCIL

WRITE FOR FREE LITERATURE
on Crates for All Sizes and Shapes
of Paper and Glass Containers

ERIE CRATE & MFG. CO.
1112 Bacon St. • Erie, Pa.

The successful premium milk campaign was planned and directed by Thomas Norton, (left), Milk Sales Manager; Albert E. Amundsen (center) General Sales Manager, and Ray J. Drew, Manager of the concern.

(Continued from Page 59)

only in half gallons in amber bottles. Obviously the market from which we could obtain the best premium advantage in a conversion was the retail market where 70 percent of our business was in halves.

We kicked off the campaign with a sales meeting dinner for all retail routemen and their wives. The office personnel were also present. Charlie List presented the Vitex story on multi-vitamin milk, gave the sales arguments and described the operation of the conversion plan.

We told our men how our incentive contest would work. We used a Belnap-Thompson prize incentive plan and valued each merit point at one cent. A 40 percent conversion gave a routeman 2,000 points. A 65 percent conversion gave him 7,000 points. Points were redeemable in merchandise.

Having the wives present at the first meeting was most effective. The wives looked over the catalogue of prizes, selected the merchandise items they felt their husbands could earn, and, later, insisted that they should earn them.

As a result, after the first week we had to revise the limits of the contest so that the top limit was 90 rather than 65 percent conversion. For, during the entire seven weeks of the contest, nobody was ever as low as 65 percent.

For the customers the contest began on January 23 with a three day set-off plan. The new milk was substituted, a half gallon of the multi-vitamin milk for a half gallon of the milk the customer had been getting. A letter, left with each customer, explained the new multi-vitamin milk's advantages and stated that it would sell for 45 cents per half gallon – 83 cents per gallon (2 half gallons) – instead of the 43 and 79 cent prices on the straight homogenized milk.

The set-off, the letter stated, was being made at the old prices, but future deliveries would be at the new price because this was a premium milk. If the customer didn't request a change, we would continue to deliver the new milk.

The plan worked. Conversions the first week were 85 percent. They dropped to 79 percent the second week, to 78 percent the third and fourth week and stabilized at 78 percent for the last three weeks. Only two customers called the dairy to ask questions. One complained. The other only wanted to get more information on the new milk.

The promotion of the plan consisted of 40 one-minute radio spots

EM-BEE

* the bulk tank with the *built-in* extras

A 3

* Including:

- Remote Bulb Temperature Controller
- Thermostatic Expansion Valve
- Cast Aluminum Heat Exchanger
- Combination Refrigerant Drier/Strainer
- Crystal-Clear Liquid Indicator
- Powerful Solenoid Valve
- Manual Agitator Timer
- Water-Tight On-Off Switch

Complete control system mounted on end of tank

PAUL MUELLER COMPANY

KANSAS AVENUE AT PHELPS
SPRINGFIELD, MISSOURI

used at a rate of four per day and a campaign of newspaper advertising. The first ad was a half page in two colors. This was followed by a quarter page ad every day for the next five days and then by two ads per week.

I suppose that at the start of the campaign we really didn't have the courage of our convictions, because we had salesmen ride with our routemen to answer complaints. We thought people might object to the 2 cent per half gallon higher price. But they didn't object. We had no complaints, and we could have saved time and money by using the salesmen for some other work.

By the end of our seven-week conversion campaign we had not only converted 78% of our original half-gallon business to multi-vitamin milk but also we had converted seven percent of our quart business to the premium product. In seven weeks we had achieved two thirds of our normal annual increase.

With our contest for new business that runs in March and April we've made a brisk start on additional increases, gaining, as I've said, seven new customers per route per week for the first two weeks. And our contest should be so attractive to our men that, coupled with the attractiveness of the new milk to our customers, we should continue these gratifying results.

We're offering the routemen a silver dollar for each new customer they get who continues to take the new milk for 30 days. We're paying each man five percent commission on his first full month's sales to new customers. And we're paying 25 contest points to each routeman for each new prospective customer he gives us by the end of March. To earn these points, each man must give us at least ten prospects.

If he gives us ten or more prospects, a routeman qualifies for a series of point prizes based on the amount of milk the suggested new customers take.

So that's the program we've run on multi-vitamin milk, and that's how it has paid off. As I've said, it's a modest contest for a moderate-sized retail milk operation. Perhaps the numbers of premiums, prizes, radio spots and newspaper ads suggest that we had a large budget. If so, they suggest inaccurately. The budget I stated at the beginning of this article, $1,700, covered everything: promotion, premiums and prizes.

For the amount of new business we think the program was a bargain.

●

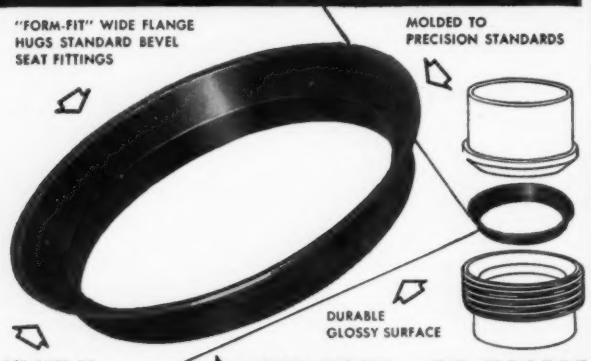
MICHIGAN DAIRY BOOSTERS HOLD OUTING IN JUNE

Plans for the Bi-annual Michigan Dairy Boosters Summer Outing at Traverse City, Michigan, June 18, 19 and 20 were completed at a meeting of the Officers and Directors of the Boosters in Detroit.

Mr. Harold Haywood, Outing Chairman reported the events for these three days of fun and relaxation for the customers, boosters and their wives.

Registration and room reservations at the Park Place Hotel or other accommodations may be made by contacting Mr. Arthur Murdoch, 2016 West Lafayette Boulevard, Detroit 16, Michigan.

HAYNES SNAP-TITE GASKETS


"FORM-FIT" WIDE FLANGE HUGS STANDARD BEVEL SEAT FITTINGS
MOLDED TO PRECISION STANDARDS
DURABLE GLOSSY SURFACE
DESIGNED TO SNAP INTO FITTINGS

LOW COST...RE-USABLE
LEAK-PREVENTING
NEOPRENE GASKET for Sanitary Fittings

Check these SNAP-TITE Advantages

Tight joints, no leaks, no shrinkage
Sanitary, unaffected by heat or fats
Non-porous, no seams or crevices
Odorless, polished surfaces, easily cleaned
Withstand sterilization
Time-saving, easy to assemble
Self-centering
No sticking to fittings
Eliminate line blocks
Help overcome line vibrations
Long life, use over and over

Available for 1", 1½", 2", 2½" and 3" fittings.
Packed 100 to the box. Order through your dairy supply house.

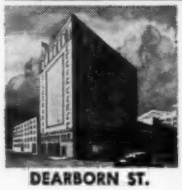
THE HAYNES MANUFACTURING CO.
709 Woodland Avenue · Cleveland 15, Ohio

SO. WATER MARKET PLANT

FOR THE BEST STORAGE OF YOUR DAIRY PRODUCTS AND THE ULTIMATE IN SERVICE

BLUE ISLAND PLANT

CENTRAL COLD STORAGE CO.


DEARBORN ST. PLANT

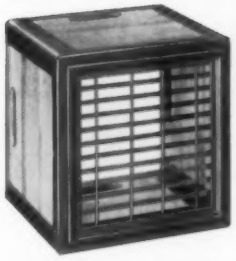
Phone:
SUperior 7-7548
350 N. Dearborn
Chicago 10, Ill.

CLARK STREET PLANT

BAKER *the* KEY TO PROFITS

Progress is a Baker byword . . . and once again Baker Box Company takes another forward step towards advancing production line automation. It's the Baker Case Stacker and it comes to you from the company with nearly 100 years of experience in the manufacturing of milk cases for both paper and glass. Just as dairymen, from coast to coast, know that the Baker case is and will continue to be, the very finest on the market, so too, is the Baker Case Stacker the best you can obtain.

Assure your dairy of greater profits by using the Baker Case and the Baker Case Stacker.



MULTI-GRID CASE
16 Quart Size

SEALED-IN-STEEL. Plated flat wire grid bottom welded to heavy duty all metal bottom stack. Five smooth sides. Easily cleaned. Same dimensions as other metal bottom lines. For Pure-Pak or Canco.

BAKER STACKER

Is completely automatic. Stacks either paper or glass bottle cases half pints to half gallons, FROM THE TOP. Top stacking operation handles cases more gently than bottom or hand stacking. No hydraulic or air equipment needed.

The BAKER CASE STACKER can be installed and in operation in less than 3 hours as installation consists merely of anchoring 4 lag screws. Power source is your existing 110 or 220 volt outlet. No major changes in conveyor system necessary.

WOODEN BOTTOM, BOTTOM STACK — 20 Quart

All hardwood — full corner irons. Bottom end reinforcement angles. Fully riveted. For Pure-Pak, Canco or Sealking cartons.

SQUARE BOTTLE QUART

The most widely used glass bottle case in the industry. Heavy wire partition rods. Full bottom channels and heavy duty stacking irons. "OLD RELIABLE."

PORCH BOXES

Fully insulated metal inside and out. Watertight construction available with or without carrying handles.

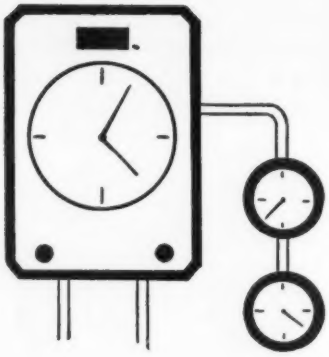
BAKER also manufactures a complete line of Round Glass Bottle Cases and Iceertrays.

RIGID-WELD
Square Quart

The RIGID-WELD line is solidly encased in steel and for absolute rigidity, is completely welded; making it the finest, most perfect milk case for glass bottles.

BAKER BOX

161 UNION STREET - WORCESTER 8, MASS.



Industry Problems

By R. F. HOLLAND and J. C. WHITE

Truck Tanks Need No Cooling - Checking For Mastitis

QUESTION—It is our understanding that empty milk truck tanks that have become warm are frequently precooled before filling with whatever dairy products are to be transported. Is this necessary? And, if so, what is the best procedure to use?

P. M. S.

ANSWER – I believe that in the early days of the use of tank trucks for the hauling of milk and dairy products that it was a practice to precool the tanks before filling them. This was, of course, true only during the summer months in periods of especially hot weather. The practice has been dropped by all of the milk plants with which we are familiar though it may still be done by some operators. We would consider it unnecessary for most applications. The following calculations will indicate why this is so. A 4,000-gallon tank might have approximately 1,300 pounds of stainless steel in the inner lining. This is the main consideration as far as the cooling of the unit is concerned. Its specific heat is about 0.12. Although the outer shell contains some heat, it is separated from the inner surface by the insulation and there is little penetration. The nature of insulation is, of course, such that it is in itself a small factor in the warming of any product placed in the tank.

Thus in cooling the lining of a 4,000-gallon tank from 95° F. to 35° F. approximately 8,000 B.t.u.'s would be involved. Four thousand gallons of milk would weigh in excess of 32,000 pounds and has a specific heat of approximately 0.93. Therefore, the 8,000 B.t.u.'s involved in the cooling of the lining of the tank would raise the temperature of the product about ¼ of 1° F. Under the worst conditions this temperature increase should certainly not exceed ½ of a degree. For most applications this is negligible.

However, if it is desirable that products be maintained at the lowest possible temperature, cooling of the tank liner can readily be accomplished by the use of a spray ball, such as is commonly inserted for in-place cleaning, and spraying the interior with ice water. The ice water should, of course, be bacteriologically acceptable and potable. Some plants have in the past combined cooling of the tank with a final sterilization – spraying the interior with a cold chlorine solution made up at tap water temperature. This in itself should bring about a very considerable reduction in the temperature of the tank liner even in the hottest weather.

Tank insulation is generally very efficient. It has been reported to us that truckers bringing orange juice from Florida to New York have placed quantities of flake ice or ice cubes in the empty tanks before leaving New York and have then had to wait for them to melt upon reaching Florida.

QUESTION — What tests can we apply to milk at the time we receive it in cans or at the farm when the milk is in a bulk tank in order to be sure we are not getting milk from mastitis cows? Is it true that some states have established body cell counts in milk and are they going to require milk from mastitis-free herds?

R. T.

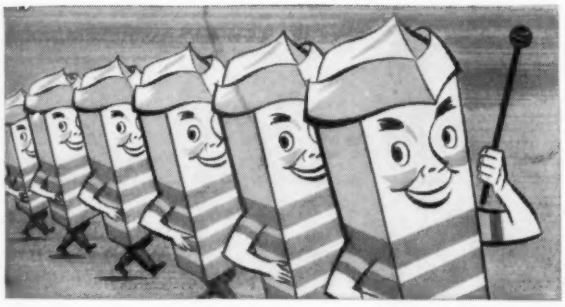
●

ANSWER – There is no individual test which can be applied to a sample of milk on the receiving deck or at the farm which will always detect milk from a cow with mastitis. If the cow has a gross infection we can find clots in the milk if we use a strainer dipper but a cow can be giving a watery secretion which this method will not detect. Also a cow may have a low grade infection which will not be detectable when her milk is diluted as in a bulk tank.

Many operators feel that they can detect mastitis milk by its odor when in can or tank. This claim has been checked against the physical examination of udders and it was shown that the deck inspector was capable of detecting only about 10 percent of mastitis milk by odor alone.

The rennet resazurin test is often cited as an accurate method for detecting mastitis milk. In the study made by the New York State Department of Health the presence of mastitis in herds was determined by physical examination and less than eight percent of this milk was de-

New Wax-Polyethylene Blends Greatly Improve Dairy Cartons



New Blends Contain A-C* Polyethylene

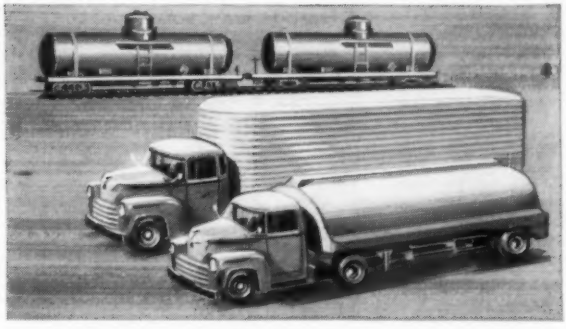
Suppliers of dairy waxes are now fortifying wax with A-C Polyethylene, giving the dairy industry major improvements in cartons without changes in production facilities. A-C Polyethylene-wax blends are now shipped in liquid form in tank cars or trucks or in slab form. Dairy users of these pre-blended A-C Polyethylene-wax combinations report many product and also production advantages.

Coating Improves Carton Strength

Reductions in bulging and number of leakers were the first advantages noted by many dairies. Cracking, chipping, flaking and rupture are all diminished when the smooth, pliant coating is applied. A-C Polyethylene-wax blends offer higher tensile strength than ordinary wax coating.

Appearance Also Improved

Color and general brightness of the carton are improved. The new blends give more uniform and more homogenous coating on bottom and sides. Printing stands out, the appearance of your product is enhanced. Dairies everywhere have found that A-C Polyethylene-wax blends are superior. Ask your wax supplier for this fortified wax blend today!



Production Problems Reduced

A-C Polyethylene-wax blends are easy to use without changes in waxing equipment. Some users even report increased coverage per pound of wax. Containers are easier to process because of reduced wax accumulations on filler section runners. Machinery stays clean, thereby reducing maintenance.

Blends Are Ready To Use

A-C Polyethylene-wax blends are available in quantity from dairy wax suppliers. Millions of dairy cartons are coated every day with A-C Polyethylene-wax blends.

Ask your wax supplier about A-C Polyethylene or mail in coupon for more information.

*Trade-mark

Allied Chemical

A-C* Polyethylene

SEMET-SOLVAY PETROCHEMICAL DIVISION
Allied Chemical & Dye Corporation
Room 520-D
40 Rector Street, New York 6, N. Y.

☐ Have my local supplier furnish information on the advantages of A-C Polyethylene-wax blends.

Name _____

Title _____

Company _____

Address _____

City _____ Zone ____ State _____

tected by rennet resazurin. Conversely this test turned up nearly four percent of false positive reactions.

Direct microscopic smears must be read with caution. In the above study 92.6 percent of the samples known to contain mastitis milk did not show long chain streptococci. Conversely, in 6.33 percent of the samples shown by examination at milking time to be free from mastitis, long chain streptococci were found in microscopic preparations.

When total cell counts were made the mastitis milk had a greater cell count; 75 percent of the samples had over one million cells per ml. but in the mastitis-free milk 43 percent of the samples had over one million. If a cell count is to be established in all realism it should be at least 800,000 cells per ml. and more justly 1,000,000.

The average cell count was 700,000 on the so-called healthy cows checked. This figure agrees with the average cell counts made at Storrs, Connecticut, and by the New York State Mastitis Control Laboratory.

The blood agar plate count is valuable in detecting active organisms but it is expensive, tedious, and slow and the results come in long after the milk has been processed and used or rejected. Some areas are taking a sample of milk and incubating it for about six hours at room temperature and then plating on blood agar. This gives organisms time to grow and makes detection easier but the quantitative value of the test is gone and its use is questionable except in finding possible sources of trouble.

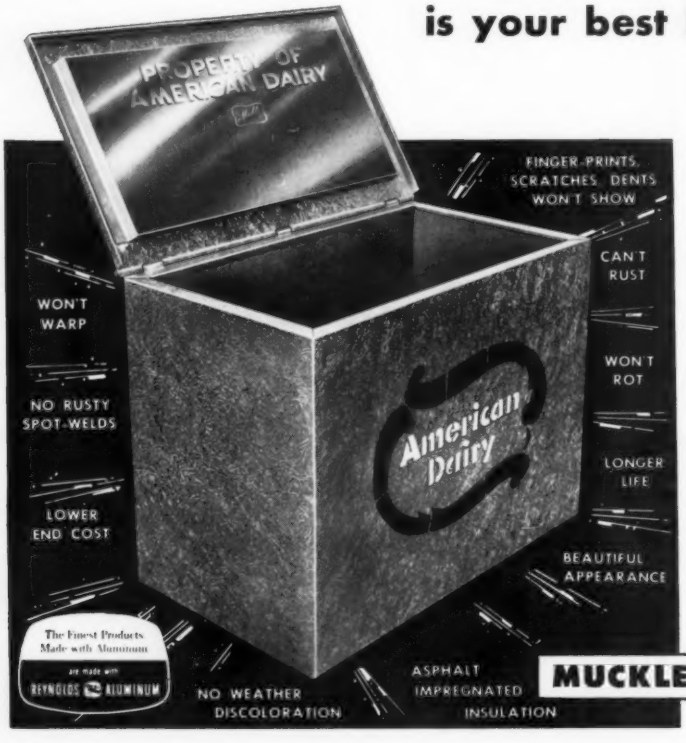
In the early days of tank truck hauling, tanks were precooled before being filled. This happened only in summer months. The practice has been dropped by all plants with which authors are familiar.

None of the deck tests will accurately reflect actual farm conditions.

We have heard rumors that some states will adopt cell count standards. They will be of little use and will cause much trouble if they *are* used.

Attempts are being made today to require mastitis-free herds, but absolute control is difficult and we do not anticipate complete control of mastitis until farmers really want to control the disease.

Here's why LEATHER-GRAIN ALUMINUM is your best buy in BOTTLE CABINETS!



The Muckle "Leather-Grain Finish" Aluminum Bottle Cabinet is more attractive when first delivered . . . and it still looks new years afterward . . .

- There are no rust stains or dulling of finish as on steel cabinets
- Leather-grain "hides" scratches that show on plain aluminum
- No deterioration as in wood cabinets

Low in price . . . the Muckle Bottle Cabinet has an expensive appearance and a long life which surpasses all other cabinets available today.

You'll be proud to deliver your Muckle Leather-Grain Aluminum Cabinet to your customer to constantly protect your dairy products from animals, dust, rain, snow, heat and cold, year after year.

Muckle

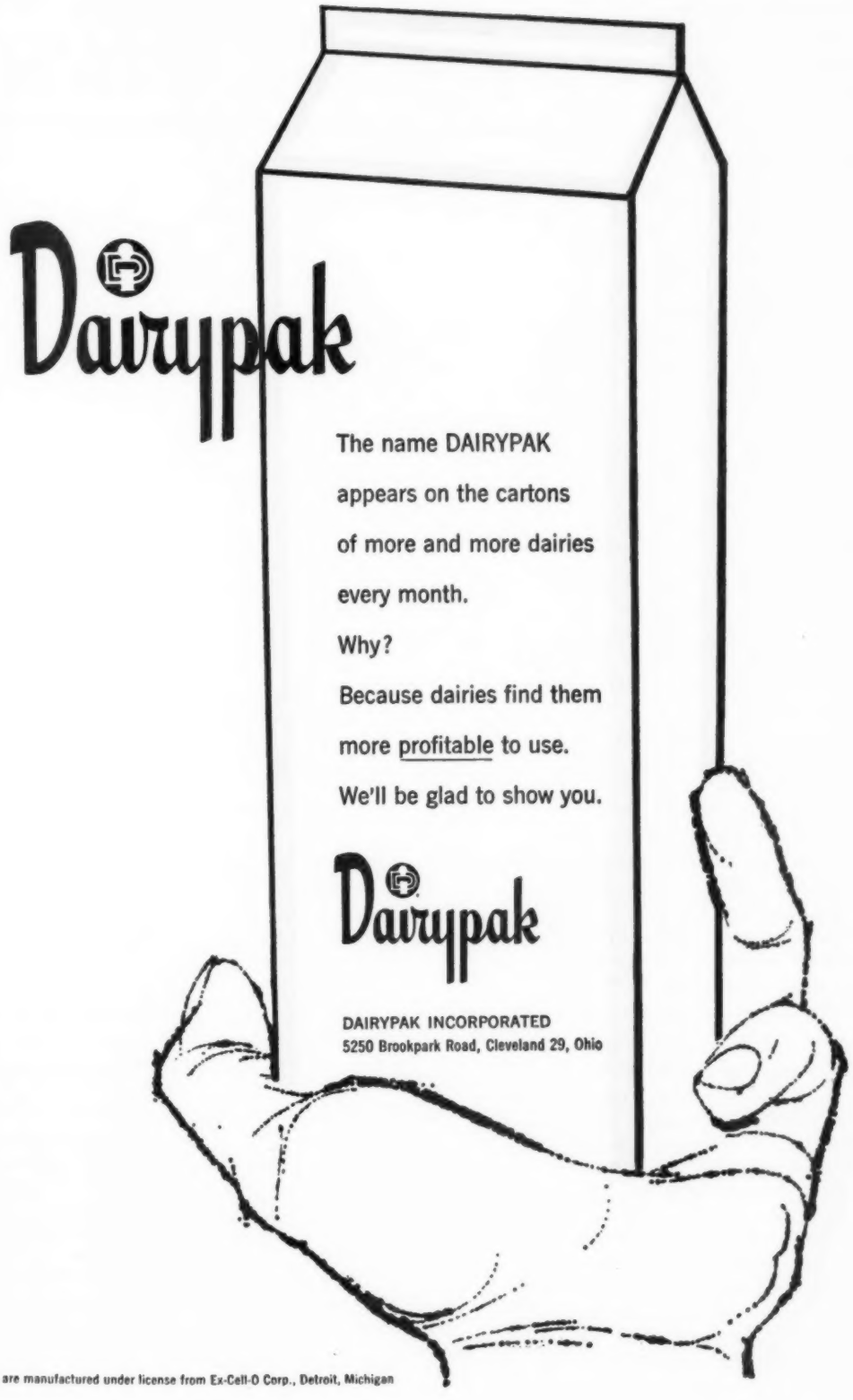
14 STANDARD PRODUCTION SIZES... FULL, WATER-TIGHT LINERS AVAILABLE...

LET US SEND YOU a sample cabinet, any size, at cost . . . postage paid. You'll see the difference in the Muckle Leather-Grain Aluminum "Lifetime" Bottle Cabinet. Ask your dairy supply salesman . . .

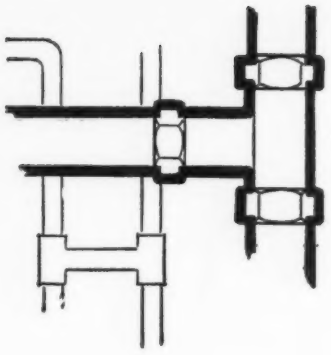
INDUSTRY LEADER IN BOTTLE CABINETS FOR 26 YEARS

MUCKLE MANUFACTURING COMPANY

OWATONNA ZONE 12, MINNESOTA



Pure-Pak cartons are manufactured under license from Ex-Cell-O Corp., Detroit, Michigan



Plant Clinic

By V. H. NIELSEN

Determining Costs Per Unit in a Multi-Product Plant

QUESTION — In our multi-products plant we manufactured last year almost 7 million pounds of nonfat dry milk and a little more than 5 million pounds of butter. In addition we handled large volumes of Grade A milk, both in bulk and bottles, and we manufactured ice cream and cottage cheese. We know, of course, how much the total of our operating expenses is, but we would like to analyze this total and find out how much of it should be charged against the different products so that we can determine a unit manufacturing cost for each product. Could you give us some suggestions in this problem?

ANSWER—In a complex operation like yours it is always difficult to set up an exact analysis of operating costs because so many of the input factors for any one product are common with those for other products. This is true of steam, power, water and, to some extent, of building. At best you may have to make some arbitrary allocations, but in general you should try to divide the expenses on basis of physical measurements where possible. As an example I have attempted to determine your cost of manufacturing one pound of nonfat dry milk after having made certain observations in your plant.

Building

Total floor area required for evaporating and drying = 4,320 square feet	
Replacement cost of building at $8.00 per square foot = (4,320) (8.00) =	$43,560
Depreciation and maintenance at 5% annually =	$1,728
Interest at 5% annually of the average investment =	864
Total annual building cost =	$2,592

Steel Warehouse

Total investment (from ledger)	$20,364
Depreciation and maintenance at 5% annually =	$1,018
Interest at 5% annually of the average investment =	509
Total annual cost =	$1,527

Equipment

The approximate total investment of the equipment used exclusively for drying (evaporators, hot wells, drier, high pressure pump and various miscellaneous items) is $144,510.

Depreciation and maintenance at 10% annually =	$14,451
Interest at 5% of the average investment =	3,686
Total annual equipment cost =	$18,137

Insurance

Insurance was paid at the rate of $1.35 per $100 coverage for the building and $1.45 per $100 coverage for the equipment. At 80% coverage for each the total annual insurance expense was $2,268.

Labor

Wages of foreman and operators	$30,960
Share of managerial salary	$ 5,000
Quality improvement	$ 5,000
Payroll taxes	$ 1,024
Total wages	$41,984

Power

Total horse power developed by motors in evaporating and drying rooms is 68.

Knowing that you made 6,956,000 pounds of nonfat dry milk at the rate of 1,000 pounds per hour and assuming 10 percent extra running time for clean-up, start-up, etc., the total hours of operation in one year was 7,652.

If the motors were assumed to be 85% efficient and you were charged 2.5c per KWH the total annual power cost would be

$$\frac{(68)\,(0.746)\,(7652)\,(0.025)}{(0.85)} = 11{,}416$$

Light	1,200
Total power and light	$12,616

Steam

Three readings of the meter measuring the condensate return from your plant during a period when only the drying operation was drawing steam from the local power plant were as follows.

Time between readings	Pounds condensate
60 min.	51,000
75 min.	59,000
75 min.	58,000
Total 210 min.	168,000

Average consumption of steam per hour

$$= \frac{168{,}000}{3.5} = 48{,}000 \text{ pounds.}$$

Since you pay the power plant an average price of $1.00 per 100 pounds

"Westfalia Liquid SEAL MM-5004 Separates 17,000 Pounds of Warm Milk Per Hour"

— Reports Plant Manager Arnold Westphal of Waconia Creamery Association, Waconia, Minnesota

Hundreds of dairies report that the new Westfalia MM-5004 Warm Milk Separator means extra dollars. Why? Because more milk can be processed per hour, and the skim milk has extra low butterfat content. This means more marketable cream, and extra profits from sale of nonfat dry milk.

Take the case of Waconia Creamery Association, Waconia, Minnesota. Says plant manager Arnold Westphal: "Because the skim milk from our Westfalia MM-5004 separators contains only traces of fat, our skim powder averages from 0.6 to 0.8 percent butterfat. These are especially fine results since we are separating 17,000 pounds per hour per machine at 120°F — up to 300,000 pounds per day through both our Westfalias *without interruption for cleaning*, while maintaining less than 0.01 percent fat in the skim. In fact, this plant has used nothing but Westfalia type machines since 1936."

Won't you let us give you the full story on the Westfalia high capacity separator?

Here are additional dairy plants using the MM-5004 at 14,000-19,000 pounds per hour

Separating temperatures vary from 85° to 135°F; BF contents vary up to a maximum of 0.01 percent by Babcock.

Apple River & Beaver Coop Creamery Assn., Inc. Amery, Wisconsin
Baldwin Co-op Creamery Assn., Baldwin, Wisconsin
Belle Plaine Farmers Coop Creamery Assn. Belle Plaine, Minnesota
Connersville Coop Creamery Assn., Downing, Wisconsin
East-West Dairymens Assn., Newman, California
Knudsen Milk Products Company, Visalia, California
Pontotoc Dairies, Pontotoc, Mississippi
Santa Monica Dairy — Edgemar Farms, Venice, California
Sunshine Biscuits, Inc., Dairy Div., Fremont, Ohio
Tillamook County Creamery Assn., Tillamook, Oregon
Turtle Lake Coop Creamery Assn., Turtle Lake, Wisconsin

Write for Catalog No. 2256 describing the entire Westfalia dairy separator line.

WESTFALIA SEPARATOR

CENTRICO
INCORPORATED
P. O. Box 349, Englewood, New Jersey

XUM

of steam, the total annual expenditure for steam was

(7,652) (480) (1.00) = $36,730

Water and Sewage

According to the water meter readings during two one-hour periods of evaporating and drying, the average consumption of water per hour was 4,400 gallons.

> This discussion of plant costs is directly related to another fine article from Iowa State College on the subject of the cost of waste disposal. Beginning on page 80 you will find an excellent discussion of this difficult question.

At the average rate of 25.3c per 1,000 gallons and allowing 10% extra for start-up and clean-up time, your total annual expenditure for water was

(7,652) (1.1) (4.4) (0.0253)	=	$ 9,370
Sewage (40% of water bill)	=	3,748
Total for water and sewage	=	$13,118

These expenditures together with certain other items taken directly from the ledger and charged against the nonfat dry milk operation in proportion to investment or use may be totaled as follows.

Building	$ 2,592
Warehouse	1,527
Equipment	18,137
Insurance	2,268
Taxes	2,000
Wages and salaries	41,984
Supplies (including packaging)	53,126
Power and light	12,616
Steam	36,730
Water and sewage	13,118
Other (General administrative, advertising, etc.)	20,671
Brokerage, etc.	34,780
Total	$239,549

Cost per pound of nonfat dry milk

$$= \frac{23{,}954{,}900}{6{,}956{,}000} = 3.44\text{c}$$

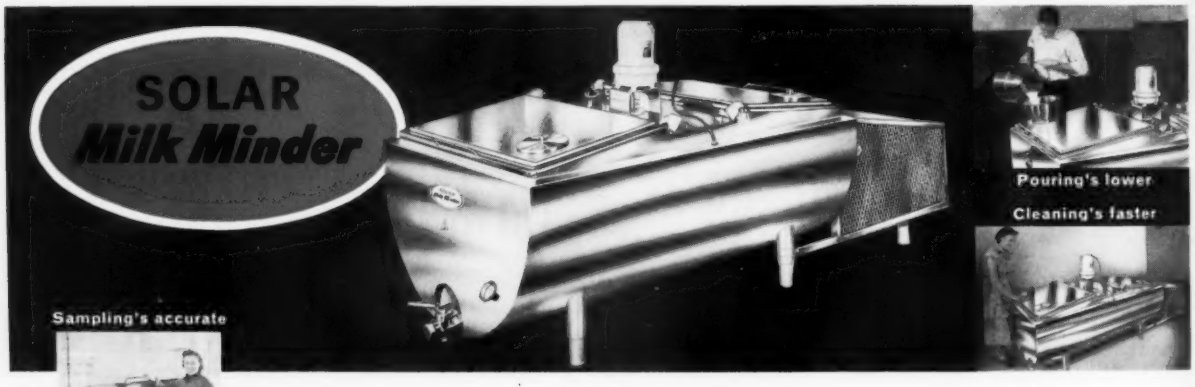
This is a relatively low cost of manufacturing nonfat dry milk. We should keep in mind that none of the costs in separating and cooling the milk are included in this figure. It contains only the expenses associated with handling the product from the time it is placed in the storage tanks as skimmilk until it is sold and loaded in the railroad cars for delivery to a specific account. A similar approach to the analysis of your butter, cottage cheese and fluid milk operations will establish the cost of manufacturing these products.

CONTROL, MONTANA AND OHIO

A new six-member Montana Milk Control board which, under terms of a new state law, replaces the former four-member board which had been criticised by a state legislative investigating committee, has been appointed by Governor Aronson.

The new board, which must meet at least once every 60 days instead of quarterly as heretofore, is composed of: Mrs. Helen Bertleson of Billings and Guy D. Pratt of Butte, representing consumers; Carl Grosswiler of Kalispell and Reed Christiansen of Vaughn, representing producers; and Harold Goble of Bozeman and John King of Missoula, representing distributors.

In Ohio the legislature, after deleting sections of a Dairy bill concerned with establishing fair trade practices in the dairy industry, squeezed through the producer portions of the bill by a one vote margin. Defeat of the measure was viewed with varying emotions among industry people in the Buckeye State. There was a decided difference of opinion within the industry on the merits of the fair trade proposal.



A tank full of PROFITABLE FEATURES

Solar MilkMinder is really loaded with profitable and work saving features.

Low, low pouring height (only 32") . . . large, sure fitting covers that makes cleaning a snap . . . and gentle, single speed agitator that prevents churning, assures accurate milk samples. These are but a few of the BIG features yours with a MilkMinder.

Investigate Solar's complete "Package Plan for Bulk Conversion" NOW!

EXCLUSIVE SOLAR FINANCING PLAN
- No money down
- 4 years to pay
- Low monthly payment

MEETS 3A SANITARY STANDARDS

Solar Permanent CO.
TOMAHAWK, WISCONSIN
division of U. S. Industries, Inc.
Serving Dairy Farmers Since 1865

Please send me the Solar MilkMinder booklet and Financing brochure.

NAME_____

ADDRESS_____

CITY_____ STATE_____

6-57 AMR

THIS MARK of QUALITY

BOYERTOWN "BETTER BUILT"

means more VALUE . . . per DOLLAR . . . per BODY

for **Cost-Conscious Buyers**
Discriminating Drivers
Efficient Maintenance Men
of the **DAIRY INDUSTRY**

The functionally designed Boyertown delivery body has features engineered and "better-built" that provide long life, greater serviceability with lower maintenance cost for a more profitable delivery operation, as experienced by thousands of Dairymen.

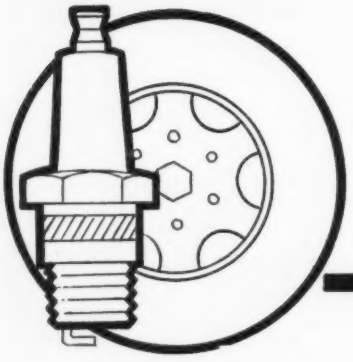
"Better Built" of high strength steel, the new Boyertown MERCHANDISER body comes in standard, insulated or refrigerated 8′, 10′ and 12′ models. Built-in features include new full-vision distortion-free windshield with full-sweep bottom-mounted wipers; two large rear view mirrors; modern grille and front-end styling, three large chassis access doors; powerful heater and defroster; adjustable driver's seat with safety stop.

You will find these and many more quality features in all Boyertown "better built" delivery bodies . . . each backed by 85 years' experience and craftsmanship. Ask your truck dealer to contact a Boyertown representative for the Boyertown delivery body best suited to your delivery routes.

Easily removable floor panels

BOYERTOWN
AUTO BODY WORKS, Inc.
BOYERTOWN, PENNA.

Delivery Vehicle Builders
for **85** *years*



Truck Talk

Decentralization of Services Trend in Route Truck Operation

LAST MONTH this department submitted the proposition that fleets composed largely of route trucks should not be in the heavy repair or rebuilding business. In the first place it is impossible to have a large concentration of route trucks at a single location because there just are not that many routes at one point. It takes a large number of trucks at a single location to justify the shop equipment necessary for rebuilding. In the second place replacement of units is more economical in the truck of route size.

After presenting the idea last month, it was promised that an example would be given this month based on the experience of a house to house fleet. This fleet has completely changed its method of operation during the last two years. The original program was undoubtedly an excellent one some years ago when conditions were different. Under today's conditions it was not economical. The new system has achieved a saving of around 25 percent even during the transition period and in the face of generally rising costs.

The fleet has about 700 route trucks and 15 feeder tractor-trailer combinations. It had a central shop which did all unit and truck overhauling. About 25 percent of the trucks were located at the central shop location or at nearby locations where there was no shop nor mechanic. Others were located at points 24 miles away, 70 miles away and 85 miles from the shop. Since this shop is located in a metropolitan district to get from one location to another means driving through congested conditions.

There is no reason at all why a route truck should travel from one location to the other except for maintenance or repair. But with a central shop all the painting was done at one location. Added to the cost of every paint job there was the wages and overhead of a driver for two days for delivering and returning the truck to its home base.

You might think that the central paint shop could save that amount of money over the cost of having the work done outside but such was not the case. The central paint shop was in an expensive location. In addition it was saddled down with some old time painters who insisted on doing a Cadillac job.

To change this the fleet superintendent sat down and wrote a set of specifications for a paint job. He then got quotations from paint shops located near where the truck operated. His next step was to farm the paint work out. On every single job he saved money. He had surprisingly few hassles over quality and these were soon over when the contract shops realized that the specifications would be insisted upon, and that inspection was thorough before the bill was paid.

The next step was to supply each outlying shop with a few decals, a spray gun and a modest amount of paint. Local foreman proved quite adept at touch up jobs that keeps the fleet looking good with fewer paint jobs. They seem to take pride in keeping a good looking fleet. The overall impression is that the fleet looks better than ever. The cost for painting has been reduced about one third.

Under the old system the local shops would grind a set of valves or perhaps install a set of piston rings in the engine but they were not supposed to give an engine a real overhauling. If the engine needed rebuilding it was sent into the central shop. There was a gorgeous system with the engine identified for location with a special color and theoretically each location was charged with the cost of overhauling its engines.

The central shop at no time had a crankshaft grinder nor did it have a surface grinder. In more recent years camshafts showed signs of wear of course the shop did not have a cam grinder. This work was sent out by the central shop. As years passed and engines needed overhauling less frequently the cylinder reconditioning equipment wore out and the central shop was sending this work out. Thus the system had grown to a point where the fleet was removing an engine at the local shop, sending it to the central shop where it was disassembled and then the precision work was farmed out in the vicinity of the central shop. Then it was assembled in

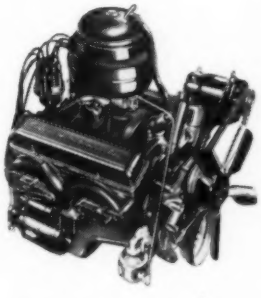
(Please Turn to Page 88)

POWERFUL REASONS WHY A CHEVROLET STAYS ON THE JOB...SAVES ON THE JOB!

COMPACT CHEVY V8

(weighs up to 150 lbs. less than others)

- Shortest stroke of any truck V8
- Short, durable connecting rods
- Vertically compact cylinder block
- Rugged yet light crankshaft
- Efficient hydraulic valve lifters
- Long-wearing Moraine bearings



Chevrolet trucks are powered by V8's that make every ounce count. Because of their trimmed-down design, they use less power to haul their own weight and put more power into hustling your cargoes. Like all Chevrolet truck components, these engines are efficient performers—and that means top economy and dependability!

Chevy's the dollar saver *de luxe* of the American road, and many of the reasons why can be found beneath the Chevrolet truck hood. That's where you'll often find a great V8 that's at the head of its class for compact, *efficient* short-stroke design. You won't find features to equal all those listed here (at left) in any other truck V8's today. Or, if you prefer a 6, Chevy's got the most popular 6-cylinder powerplants in the history of hauling. They're honest-to-goodness *truck* engines, specially built to *stay* and *save* on rough, tough hauling jobs.

You'll find that a Chevrolet truck gives you *so much* to save with! Your Chevrolet dealer is waiting to fill you in on all the facts. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

Biggest sellers . . . because they're biggest savers! CHEVROLET

CHEVROLET TASK·FORCE 57 TRUCKS

announcing P

Now, after nine years of research and field testing Pennsalt takes pride in announcing a new, wide-purpose sanitizer . . . PENNSAN!

PENNSAN is a liquid acid-type sanitizer that can be used in any water at a concentration of 1 ounce to one gallon. It's excellent for bulk tanks, pipe line milkers, tank trucks . . . in fact all dairy and food plant equipment. And PENNSAN can be used by any method—flush, circulate, spray or soak.

PENNSAN is also an excellent detergent cleaner! It actually brightens stainless steel. Comes in ½ gallon bottles, 2 to the carton; 4 cartons to the case.

Pennsan

non-corrosive sanitizer

NON-CORROSIVE . . . PENNSAN will not corrode equipment but actually brightens stainless steel surfaces.

EFFECTIVE IN ALL WATER . . . PENNSAN works fast even in hard water, and at all ordinary temperatures.

COMPLETELY SOLUBLE . . . it's liquid . . . makes clear solutions, leaves no film.

CONTROLS MILKSTONE . . . stops milkstone deposit when used according to directions on bottle.

ECONOMICAL . . . 1 ounce of PENNSAN to one gallon of water makes an efficient sanitizing solution.

CONVENIENT . . . new PENNSAN glass container is handy, transparent! Measuring cup and full directions in every carton.

PENNSAN IS A TRADE-MARK OF PENNSALT CHEMICALS CORP.

New PENNSAN is available at your B•K dealer. Or, write for full information to B•K Dept. 476

Pennsalt Chemicals

Pennsalt Chemicals Corp.
3 Penn Center, Philadelphia 2, Pa.

Number 6 in the American Dairy Association's Reports on Market Research Points Out Some Developing Consumer Habits That Lend Themselves to Sales Exploitation

ADA Study Opens Dealer Door to Effective Sales Promotion

MORE THAN enough additional milk sales can be made through point-of-sale promotion urging consumers to "take home an extra quart for the week-end to make the promotion worth while." Martin Framberger, general manager of the American Dairy Association, says that, according to the sixth annual survey conducted for the Association by Alfred Politz Research, Inc., more than half of all homemakers sometimes find themselves without milk when they need it. They most frequently run out of milk on week ends.

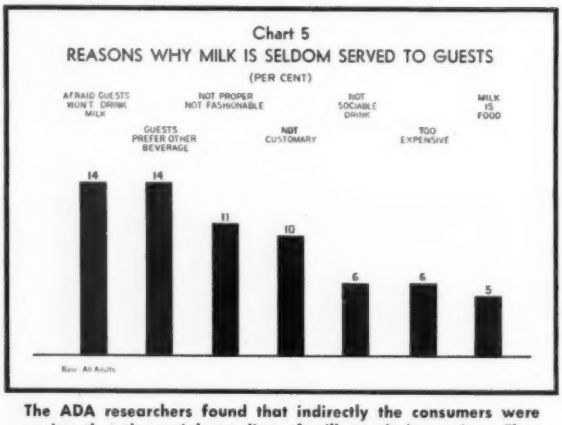
Mr. Framberger said, "The market for selling extra week-end milk is gained or lost at the point of sale, and the indication is that the market can be greatly expanded by in-store promotions urging the homemaker to be *sure* she has enough milk to see her through the week end."

The study indicated several other opportunities for expanding the market through additional promotion:

About two-thirds of the adult population drinks both milk and coffee, yet only one-fourth of this group sometimes drinks both at the same meal. Increased promotion of the "Milk Now, Coffee Later" theme in both restaurants and homes can increase this market, according to Mr. Framberger.

Approximately 45 percent of adult milk drinkers sometimes experience a craving for a glass of milk. ADA points out that a direct appeal to this craving can also be a key to an expanded market.

Another field for additional milk promotion, as indicated by the consumer study, lies in the serving of milk to guests. Many hosts feel that guests will not like milk or that it is not a "fashionable" drink, or merely that it is not customary to serve milk to guests.



The ADA researchers found that indirectly the consumers were saying that the social standing of milk needs improving. They drink milk less frequently in restaurants than in the home.

One area of the consumer study indicated that the advertising program of the American Dairy Association has had a significant impact on public thinking. When asked about daily milk requirements 43 percent of the individuals questioned replied in terms of glasses. Two years ago, only 19 percent used glasses as a term of reference. The increase means, according to the ADA, that the public is aware of the "Three Glasses A Day" advertising message.

Any of these opportunities for increased sales can be exploited by the individual dairy through a coordinated promotional program utilizing proven advertising media – such as store banners, streamers, window display signs, newspaper, radio and television ads, point-of-sale displays, circulars, or direct mail.

●

READ AND PONDER

1. Milk drinking at meal time has increased over the last two years. The largest increase has been at supper.
2. Consumption of milk at bedtime has also increased. Expanded promotion of milk drinking at this time is indicated.
3. Milk with the meal and coffee later is an accepted idea. Further merchandising with restaurants as well as consumer promotion is needed.
4. Many adults sometimes have a desire to drink an extra glass of milk. This occurs between meals, offering a possibility of further increase in milk drinking.
5. Some people are not able to satisfy the desire for "that extra glass of milk" because they do not have milk in the house.
6. Homemakers most frequently run out of milk on week-ends and when they have guests, indicating the pressing need for point-of-sale reminders.
7. Milk drinking away from home, in restaurants or at someone else's home is still an area for improvement, again indicating that we

(Please Turn to Page 99)

Another SHARPLES Exclusive...

No Foaming Presur-Seald Design with SEMI-PERMANENT 10-X SEALS*

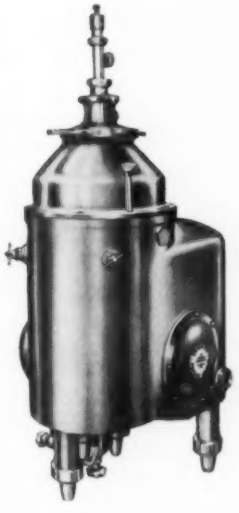
From long experience, dairy processors know that pressure tight seals mean NO FOAMING plus completely sanitary operation. Now Sharples offers all the advantages of modern pressure tight design with absolute minimum seal replacement.

*Sharples users report 10 to 30 times longer life with 10-X seals

The secret is the revolutionary 10-X seal that lasts 10 times longer. These semi-permanent seals don't absorb heat—they dissipate it. Naturally, they last much longer, and are your best insurance against product loss.

Sharples Presur-Seald design, with 10-X seals, eliminates cumbersome paring devices, gauges and other troublesome parts common to modified open type machines. As a result, motor horsepower requirements are much lower with Sharples equipment. Peak performance is assured. . . . BOTH milk and cream are discharged under pressure to any reasonable distance—an added saving.

Presur-Seald design is just one of the many reasons why Sharples Separators, Clarifiers and Standardizers out-perform on every count. For peak efficiency plus operating economy, your BEST BUY is SHARPLES.



See your Sharples dealer or write for Bulletin 1282.

SHARPLES *dairy equipment division*

CLARIFIERS
SEPARATORS
STANDARDIZERS

THE SHARPLES CORPORATION
2300 WESTMORELAND STREET • PHILADELPHIA 40, PENNSYLVANIA
CHICAGO • NEW YORK • CLEVELAND • HOUSTON • SAN FRANCISCO • ST. LOUIS
Sold and serviced by reliable dealers everywhere.

XUM

Extension and Enforcement of Stream Pollution Laws Are Causing a Reappraisal of Waste Disposal Practices. This Article Deals with the Very Pertinent Question of the Expense Involved.

The Cost of Milk Waste Treatment

By PAUL E. MORGAN

Exclusive feature AMR

The problem of disposing of dairy plant wastes is becoming more acute. Stream pollution laws, most of them less than 30 years old, are being revised periodically to broaden their coverage and enforcement. Local health and stream pollution authorities are insisting that plants refrain from discharging untreated milk wastes into the streams.

The problem is most serious for those plants that discharge their wastes into small stream. Plants located on large streams do not create a nuisance condition with their wastes. Unfortunately a great many milk processing plants are located in small communities without sewage treatment plants or in rural areas where little dilution water is available in the receiving stream.

Management in a substantial number of plants has not done anything about their pollution problem because they do not know what the problem is or how to approach it.

Dairy wastes have a high biochemical oxygen demand commonly referred to as B.O.D. To handle these wastes requires large volumes of water or a waste treatment plant that will remove a high percentage of B.O.D. before it gets into the stream.

A waste treatment plant, like any other phase of a milk plant operation, must be paid for out of income from the sale of products. The original cost of the treatment plant plus the operational and maintenance expense must be added to the price of the product or subtracted from the profit. Consequently a good waste treatment plant must be relatively inexpensive to build, must provide a high degree of treatment, and must operate with a minimum of attention. Plant managers need to know what waste treatment costs per pound of butter produced or per pound of milk received.

All milk plants discharge wastes of an organic nature regardless of the efforts of careful management (1). The major unavoidable wastes include (2):

1. Milk solids that cling to the surfaces of equipment, storage vats, piping, and utensils.
2. Wash water used in manufacture of butter and cheese.
3. Condenser water from vacuum pans.
4. Sanitary wastes from toilet and shower facilities.

Many sources of wastes in a milk processing plant may be eliminated easily by proper management and the use of proper equipment (3, 4, 5). These waste sources include drips, leaks, overflows, spills, freeze-ons, drainings, and discarded by-products such as buttermilk and whey. Clean water is often added directly to the plant wastes by allowing water to run needlessly from hoses, faucets, or coolers (6). Excess water is often used in rinsing equipment, piping, and utensils after they have been washed. Improperly designed equipment should be replaced, and operational methods should be changed to minimize all organic and water losses from the processing plant.

Mr. F. W. Mohlmann (7) stated:

"Those who have investigated industrial wastes know that the manufacturer rarely appreciates how much of his product goes down the sewer until a reliable sampling and gauging survey is made. Good housekeeping within the milk plant itself is the starting point for solving many milk waste problems, perhaps 90 percent of them."

Milk Waste Treatment

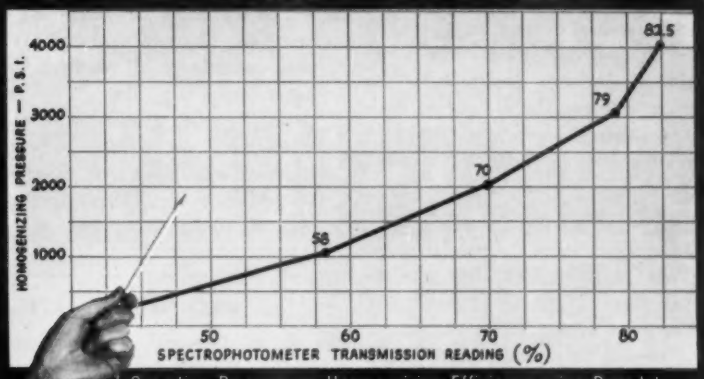
There are five general types of treatment employed with milk processing plant wastes. These are septic tanks, aeration, activated sludge, irrigation, and biological trickling filters. Some work has been reported on the chemical treatment of milk wastes; however, it was found to be an expensive partial treatment (8).

Septic tanks have been used for treating milk wastes, but their application is almost never successful. Since milk wastes are low in settleable solids, little sedimentation is accomplished other than for grit (9).

MEET THE AUTHOR

Paul E. Morgan is Assistant Professor of Civil Engineering at Iowa State College. His work is primarily concerned with the engineering aspects of problems in sanitation. This article which discusses the pertinent question of costs in relation to waste disposal is based on an excerpt of a report of study made by the Iowa Agricultural Experiment Station by contract with the Agricultural Research Service U.S.D.A. The excerpt is entitled "Some Economic Aspects of Milk Waste Treatment."

DARE TO COMPARE!



of Operating Pressure on Homogenizing Efficiency using Dyna-Jet

Mr. John Hassell, Assistant Dairy Sales Manager, points to Dyna-Jet's increased efficiency at all pressures; and asks you to . . .

DARE TO COMPARE all the Gaulin Features

Heavy duty construction

Slowest average operating speed — proven longest life

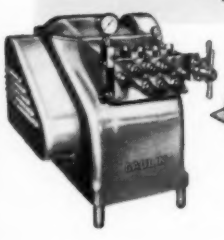
Positive pressure lubrication

Long life nylon cylinder gaskets

Automatically adjusted plunger packing

Exclusive ball valve cylinder for abrasive products

and the revolutionary Dyna-Jet



DYNA-JET homogenizes better AT ALL PRESSURES

When you look at a homogenizer, look at the two factors most vital to your own operation — quality of end product and operating costs.

Gaulin Spectrophotometer charts show exactly what happens:

As pressures increase the degree of fat particle break-up becomes finer and finer . . . permitting more light to be transmitted through the test sample. At any given pressure, Dyna-Jet does a better, more efficient job than any other valve.

Result: A new fineness and uniformity in the homogenizing of milk. *Plus*, new opportunities to control operating costs by proper application of pressures, power consumption and efficiencies.

Truly, there's a new science to homogenizing. Dare to compare *all* the facts on homogenizing valves — ask to see and hear the remarkable story on the new Gaulin Dyna-Jet Valve and Light Transmission readings. Contact your local Manton-Gaulin dealer, or write: The Manton-Gaulin Manufacturing Co., Inc., 49 Garden St., Everett 49, Massachusetts.

Gaulin TRADE MARK

MANTON Gaulin MANUFACTURING CO. INC. EVERETT, MASS.

MG 7-17

The principle of aeration has been used in the treatment of milk waste for many years. Its primary application has been in holding or equalizing tanks to prevent odors and septic condition Eldridge (1) reports that aeration changes the lactose in dairy waste to lactic acid, in which form it is more easily treated on the biological filter or in the activated sludge process.

Hoover and his associates (10) have reported considerable work on the use of plain aeration as a possible complete treatment for milk wastes. Some complete aeration plants have been installed and operational data are being acquired (11).

The activated sludge process of milk waste treatment involves the aeration and agitation of the raw waste plus an activated sludge. The activated sludge is produced by the aeration of the waste. It contains an active culture of bacteria and other organisms that feed on the solids in the waste. Part of this sludge is mixed continuously with the incoming waste, and the remainder is discharged to a digestion tank or removed for ultimate disposal. The treatment plant involved in the activated sludge process occupies less area than the biological trickling filter (12). This process is, however, extremely sensitive to wastes low in pH and high in sugar or carbohydrate and to changes in temperature. These sensitivities make this process of milk waste treatment comparatively difficult to control and consequently impractical for small milk processing plants (1).

For many years, irrigation has been suggested as a means of disposing of milk waste treatment plant effluent (13). The effluents from trickling filters and septic tanks have been applied to the surface of the ground and allowed to infiltrate into the soil. In areas with small annual rainfalls and deep water tables, this system of disposal has been satisfactory (14).

Spray irrigation of growing foliage has been suggested recently (15). Some caution is indicated, however, since undecomposed proteins may cause odors and clog the top soil. The volume of waste which may be disposed of by this means may be limited by the rainfall, amount of foliage, degree of cloudiness, temperatures, and permeability of the soil. Considerable difficulties are encountered with all types of irrigation during freezing weather.

The trickling filter-type of waste treatment plant has proved to be the most reliable of all methods. A biological trickling filter is a bed of crushed stone, gravel, or slag. The material is one to four inches in diameter. The beds are usually from six to eight feet deep and are laid over a complete system of underdrains. The applied sewage trickles over the surfaces of the filtering media which becomes coated with a slimy film. Fine suspended and dissolved solids contained in the waste are held in the film and the colloidal material is absorbed by it. Since air is always present in the media, a large population of aerobic bacteria will inhabit the film and utilize the suspended, colloidal, and dissolved organic solids in their life processes, thus bringing about a reduction of B.O.D., ammonia, and organic nitrogen in the waste.

VAST NEW MARKET

In Concord, Va. Dairyman W. D. Evans is not crying over the 80 gallons of spilled milk. He used it to douse a fire in the bathroom of his sister-in-law.

Evans was loading a milk truck when he received a frantic phone call from several miles away. He sped to the fire with 100 gallons of milk.

The milk was carried into the house and poured onto the flames until they were sufficiently under control that the bathroom water taps could be reached and water drawn to extinguish the blaze.

Evans, who put out a tractor fire with milk several years ago, says it is better for the purpose than water.

Two types of biological trickling filters are in use today, the standard rate filter and the high-rate filter. The major difference in the two types is their organic and hydraulic loadings.

The initial cost of a trickling filter plant is generally higher than the cost of any of the other four types discussed. In spite of the high initial cost, however, trickling filters are still the most generally accepted method of treatment for milk wastes (12). In this respect, the high-rate trickling filter, with recirculation of filter effluent, has been especially effective in reducing the B.O.D. of milk wastes to reasonable values.

Plant Studies

In reviewing the literature, no reports for a successful treatment operation were found that provided complete operating data, including data on the waste volumes and strengths, treatment plant unit design loadings, volume of milk intake and products produced. Therefore, to provide this information, actual field surveys were needed for each type of treatment plan to be considered. To be of value, the field surveys has to be conducted at treament plants that were operating successfully without creating an odor or stream-pollution problem.

After a thorough search, two plants, both in Wisconsin, were picked for detailed study. Both plants were operating satisfactorily and were reported to have been operating that way for a number of years. In addition, the management of both plants expressed a desire to cooperate fully in this study. One plant was a single stage, high-rate, trickling filter plant and the other was a two-stage, high-rate, trickling filter plant.

In 1954, two surveys were conducted at each plant to determine operating conditions in the processing and treatment plants as they had existed for several years. As a result of observing plant operations, certain waste-saving techniques were designed to reduce the volume and strength of the milk waste discharged to the sewer. The management of each plant agreed to adopt the recommendations, but no attempt was made by survey personnel to effect compliance with the recommendations. Later in the summer, additional surveys were conducted at each plant to determine operating conditions after partial compliance with the waste savings recommendations.

In 1955, two surveys were conducted at each plant without making any attempt to cut down on the volumes and strengths of the wastes produced. Then, surveys were conducted at each plant during a period when effective waste-control measures were maintained in the processing

Check the cost and see...

THERMO KING

TRUCK REFRIGERATION

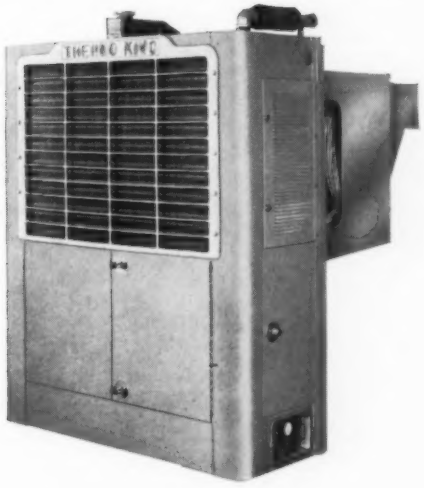
COSTS LESS

- *to own*
- *to operate*
- *to maintain*

It costs less to own because it's produced in volume by the leader in the truck refrigeration field. This means a lower selling price.

It costs less to operate because of its exclusive start-stop system. It doesn't just idle down—it shuts off the engine completely when your load has reached the proper temperature, and starts again when needed.

It costs less to maintain because 20 years of engineering advancement has perfected the unit with fewer parts, maximum cooling, and trouble-free operation. Your best truck refrigeration buy is **THERMO KING.**



NATIONWIDE SERVICE: Thermo King service stations on all important truck routes in United States, Canada and Mexico

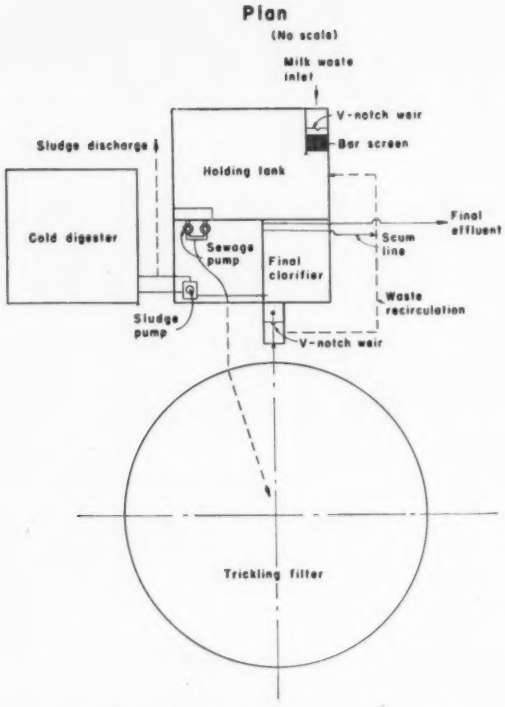


Figure 1—Plan of proposed single stage, high-rate trickling filter plant, type A.

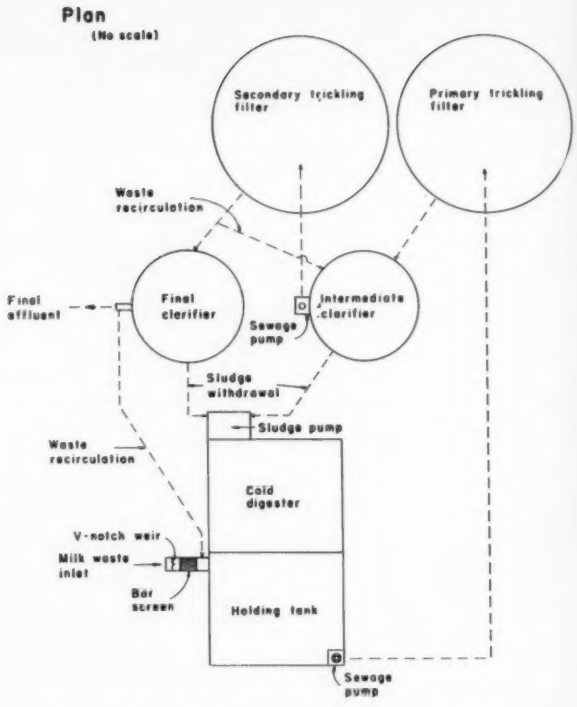


Figure 2—Plan of proposed two-stage, high-rate, trickling filter plant, type B.

plant. During these periods, the survey personnel initiated and controlled the waste-saving techniques proposed as a result of the in-plant studies.

Application to the Milk Industry

Properly designed and operated high-rate, trickling filter plants for milk waste treatment were found in this study to provide consistent, dependable treatment results. The average unit loading observed in the field studies, modified to some extent by the unit loadings recommended by the Engineering Division of the Iowa State Department of Health, were used, therefore, to design type A and B filter plants as follows:

1. Plant A—single stage, high-rate, trickling filter plant with a holding tank, final clarifier, cold digester, pump-house, and pumps.
2. Plant B—two-stage, high-rate, trickling filter plant with a holding tank, primary trickling filter, intermediate clarifier, secondary trickling filter, final clarifier, cold digester, and pumps.

Typical layouts for single-stage and two-stage plants are shown in Figures 1 and 2 respectively. The plant layouts are similar to those studied in the field tests.

The size and cost of a trickling filter plant of either type is determined by the volume and strength of the waste and by the degree of treatment required to prevent nuisance conditions in the receiving stream. The degree of treatment required will determine the unit loadings in the treatment plant, particularly the unit loadings on the trickling filters. The volume and strength of the waste will determine the size of the treatment units, but will not affect the unit loadings.

The field data obtained in this study permit the establishment of proposed unit loadings for both types of trickling filter plants in which a 95 percent B.O.D. reduction is required. In such a plant handling 100 pounds of B.O.D. per day, five pounds of B.O.D. would be discharged to the stream. If a higher B.O.D. reduction were required, treatment plant loadings would have to be reduced. Such a reduction in the plant loading would increase the size and cost of the treatment plant.

To determine the cost of various sizes of type A and B plants capable of removing 95 percent of the B.O.D.. treatment plants of the following sizes were designed:

Type A	*Type B*
(Plant Capacity in Pounds of Raw B. O. D. Per Day)	
100	100
250	250
450	450
700	700
1000	1000

In order that the treatment plant costs could be determined for any milk processing plant, the plants were designed on the basis of the volume and strength of the waste rather than in terms of the milk intake. The estimated cost of a treament plant can thus be determined by a knowledge of the B.O.D. in the plant waste.

Plant Costs

The overall cost of milk waste treatment must include the first cost, operating cost, and depreciation costs of the waste treatment plant. The first cost of a waste treatment plant includes the construction cost, equipment cost, engineering cost, and legal fees. In other words, the first cost is the total expenditure necessary to design, to construct, and to place the waste treatment facilities into operation.

The legal fees will depend on the amount of legal work that must be

why the ladies like cellophane

. . . and how you can use it to your profit

Cellophane hoods available in red, green, tango and clear.

Sealing tapes available in the following colors:

- Red
- Blue
- Green
- Purple
- Orange
- Black
- Natural

If you're looking for ways to put some excitement into your sales program, to broaden your market, and to please even more the customers you now have . . .

Consider the spectacular success of cellophane as a packaging material.

Cellophane is stimulating to your lady customers. It's bright, colorful. Smooth, clean, and fresh-looking.

No wonder the ladies like it and buy so many products packaged with it.

Cellophane makes a practical closure, too. *Sanitary. Tamperproof.* It protects contents against rain, dust, and freezing weather. Stretches *with* the milk should it freeze.

You can get the cellophane hoods, caps and hooding machines through your jobber salesman—all at really low cost. Or write us direct for further information.

MEMBER NATIONAL DAIRY COUNCIL

SMITH-LEE CO., INC., ONEIDA, N.Y.

SPECIALISTS IN DAIRY PACKAGING

done. The types of legal work that are encountered in the construction of a waste treatment plant include the purchasing of land, the acquisition of right-of-way, building permits, and, perhaps, financing. Since the legal fees will vary considerably, an estimate of three to five percent of the contract price has been assumed for comparison purposes only.

Equipment costs were obtained from reputable equipment manufacturers in each field. The equipment costs used in this study were obtained in July and August, 1955, and represent costs of the equipment delivered to central Iowa at that time.

The construction cost of each plant was based on the unit costs for this type of construction in central Iowa during 1954 and 1955. The total first costs for the various sizes of plants of type A and B are shown in Table 1. The total first costs for plants of both types are shown also by the curves in Figure 3.

The total annual operating costs for the various sizes of each type of plant, A and B, are shown in Table 1. The operating cost of a waste treatment plant includes the cost of labor, power, and miscellaneous expenses. It has been assumed that the labor requirements in plants of both types would be the same regardless of their size. A quarter-time man should be able to operate and maintain any of these plants in a satisfactory manner.

Power costs will vary from one section of the country to another. Power costs will also vary with the size and type of the waste treatment plant.

The power costs for type A plants are correspondingly less than the power costs for type B plants. This is as expected, since at type A plants the waste is pumped only to one filter with a low recirculation ratio. At type B plants, the waste is pumped to both filters with a high recirculation ratio.

Miscellaneous expense at a waste treatment plant would include such materials as paint, grease, oil, and minor repair parts for various pieces of equipment. This expense is difficult to estimate accurately, since no two waste treatment plants will require the same materials each year.

Effect of Waste Saving Measures on Plant Costs and Annual Expenses

To study the effect of waste saving measures on plant costs and annual expenses, a summary of the average processing plant milk losses as found in the field surveys is given as follows:

Plant A

Type of Waste Control	Average B.O.D. Lbs./1000 Lbs. Milk Intake
No waste control (6-30-54 and 7-1-54)	3.39
Management waste control (7-27-54)	2.58
Management waste control (7-1-55 and 7-2-55)	3.37
Supervised waste control (7-8-55)	1.83

Plant B

Type of Waste Control	Average B.O.D. Lbs./1000 Lbs. Milk Intake
No waste control (7-15-54 and 7-16-54)	1.53
Ineffective management waste control (8-12-54 and 8-13-54)	1.82
Management waste control (8-19-55 and 8-20-55)	1.73
Supervised waste control (8-26-55 and 8-27-55)	0.95

At plant A, the waste strength averaged about 3.38 pounds of B.O.D. per 1,000 pounds of milk received during the periods of no waste control and management waste control. When the waste control was rigidly supervised, the waste strength was reduced to 1.83 pounds of B.O.D. per 1,000 pounds of milk received, a reduction of 46 percent.

To apply these waste-saving data to an actual plant, let us take a hypothetical example. If a processing plant receives an average of 300,000 pounds of milk per day and if the losses from this plant amount to 2.33 pounds of B.O.D. per 1,000 pounds of milk intake, 700 pounds of B.O.D. would be discharged per day. With the installation of an effective waste saving program within the processing plant, the B.O.D. might be reduced about 45 percent or to a total of 385 pounds per day.

Figure 3 shows a comparison of the construction costs of the various sizes of plant type A and B. According to Figure 3, the construction costs for a plant treating 700 pounds of B.O.D. would be about $40,600 for a type A plant and 35,500 for a type B plant. (See Page 101 for Fig. 3)

If waste-saving measures were installed and the amount of B.O.D. discharged could be reduced by 45 percent, or to 385 pounds per day, the resulting plant costs would be reduced accordingly. According to Figure 3, the construction cost for a plant treating 385 pounds of B.O.D. would be about 29,800 for a type A plant and $26,200 for a type B plant. The cost information for this example at both plants may be summarized as in the table below:

These data indicate that the installation of an effective waste control program in a milk processing plant will reduce the construction cost of waste treatment by a significant amount. In the hypothetical case, the construction cost was reduced approximately 26 percent for both types of plants. Although these reductions are for the specific example cited, similar cost re-

(Please Turn to Page 101)

TABLE 1

Construction and Operating Costs for Types A and B plants

Type A Plant					
Plant Size (lbs. B.O.D./day)	100	250	450	700	1,000
First Cost (construction, engineering, legal, equipment)	$20,180	$25,600	$33,680	$40,520	$50,380
Annual Operational Cost (power, labor, miscellaneous)	$ 1,798	$ 1,938	$ 2,133	$ 2,280	$ 2,570
Type B Plant					
Plant Size (lbs. B.O.D./day)	100	250	450	700	1,000
First Cost	$17,570	$22,760	$29,160	$35,440	$44,620
Annual Operational Cost	$ 1,827	$ 2,012	$ 2,280	$ 2,570	$ 2,904

Cost Item	Before Waste Control	After Waste Control	Reduction Percent
Plant Type A			
Construction cost	$40,600	$29,800	26
Plant Type B			
Construction cost	$35,500	$26,200	26

Quirk milk cases . . .
The answer to dairy plant
AUTOMATION

5 to 7 years Service*.. Rigid, Strong.. Lower Overall Cost

NEW IMPROVED ALL METAL BOTTOM

Designed for today's and tomorrow's AUTOMATION requirements, Quirk Milk Cases are built to take it . . . Rigidly built with weight kept to a minimum . . . Maximum container protection . . . Longer case service.

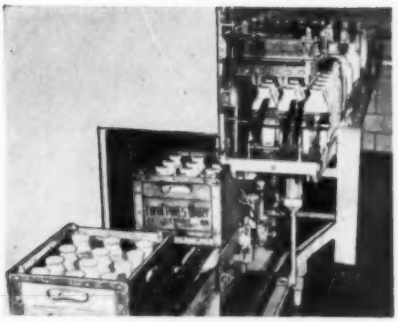
Field Proven Quirk Automation Features!!

1. SELECT NORTHERN HARDWOODS — No Porous Grains — Reinforced Metal Channels Throughout — Absorb Shocks in Stacking with AUTOMATIC CASE STACKERS . . . Less Product and Container Loss.
2. EXCLUSIVE QUIRK BOTTOM STACKING — Continuous case Flow on FLOOR CONVEYORS . . . Minimum Wear — No Jamming.
3. SMOOTH INSIDE CASE CONSTRUCTION — Uninterrupted Case Loading with AUTOMATIC CASE LOADERS.
4. MORE TRIPS PER CASE — Less Replacement Cost.

Write for complete information Today!

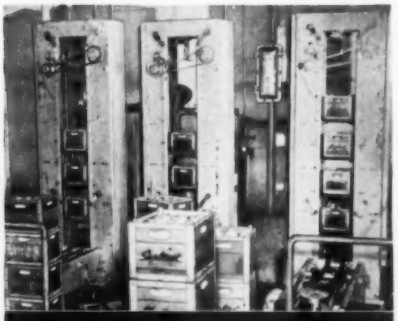
*From a National Survey.

Quirk MANUFACTURING CO.
3383 E. Layton Ave. Cudahy, Wis.



At TWIN PINES DAIRY, Detroit, Mich. Automatic Casing Machines Load Quirk Bottle Cases.

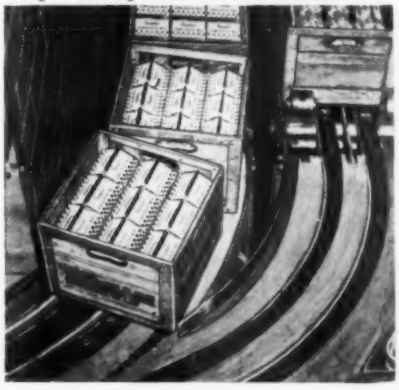
Quirk Cases with Automatic Stackers at DETROIT CREAMERY, Detroit, Mich.



QUIRK CASES ON THE JOB IN THESE PLANTS EMPLOYING AUTOMATION

In use on Floor Conveyor at CREAMLAND DAIRIES INC., Albuquerque, New Mexico.

Conveyor Designed Quirk Cases Smoothly Flow Along to Loading at CREAMLAND DAIRIES.



TRUCK TALK

(Continued From Page 74)

the central shop and sent back for installation.

Obviously this does not make sense. The local fleet shops could grind a set of valves and install a set of rings with the shop equipment it had. This would keep the average engine operating economically for as much as 85,000 miles. At present the local shops are working on this basis without adding manpower.

In checking into the engines that need complete overhauling it was found that a new "short block" could be purchased from the manufacturer for less money than the cost of overhauling. In addition it reduced the cost of keeping around a flock of spare engines.

The large engines from the transport trucks are now overhauled by an engine rebuilder near the central location for less money than the fleet shop could do it. Other units such as transmissions and differentials which occasionally need replacement are either farmed out for rebuilding or are replaced with a new unit.

So now it can be said that there is no central shop. The big shop has been sold and the shop at headquarters occupies about half the space it once did. More parts are bought locally instead of through a central source, so the parts and supplies inventory is cut about in half. Carrying and ferrying is almost non-existent.

Inherent in all this is, of course, decentralization of services. There is not a decentralization of authority. There is still a strong man at headquarters. He is circulating among the various locations at least half of his time. He is delegating more and more responsibility to the local fleet men and he has already increased the local garages by two.

●

QUANTITY DISCOUNTS GET OKAY IN MAINE

Maine's House of Representatives gave initial approval (May 10) to bills which would make the following changes in the state's milk laws:

Provide for quantity discounts on home deliveries; give discounts at least equal to home-delivery costs to consumers who prefer to buy in stores.

Add one more consumer representative to the State Milk Commission; empower the commission to set milk standards, which are now established by law; require license suspension for dealers delinquent in paying their producers.

Exempt from price control sales by a producer to consumers at his premises; exempt "benevolent and charitable institutions" from controlled minimum prices; put the state and its subdivisions back under price control.

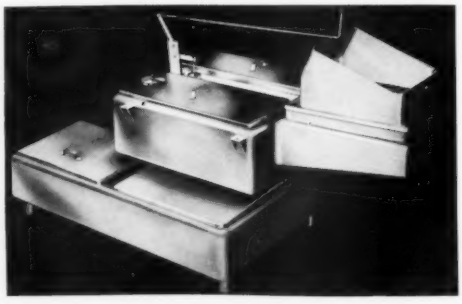
Require dealers to pay the Maine minimum price for any milk produced in the state and sold within controlled market areas in Maine; and permit only pasteurized milk to be sold to the state, public hospitals, schools lunch programs and charitable or educational institutions receiving public assistance.

The action of the legislature is in keeping with trend that is nationwide. The trend is clearly an attempt to differentiate between delivery costs and product costs.

Saucier

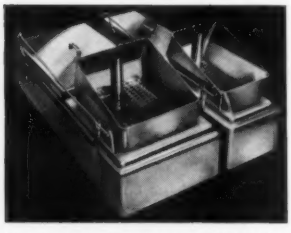
COMBINATION WEIGH CAN AND DUMP TANK

Single compartment weigh can with 750 lbs. capacity and single compartment dump tank with 900 lbs. capacity. SAUCIER offers a complete line of styles and sizes for regular or "Grade A" milk. Write for details of these and other models.

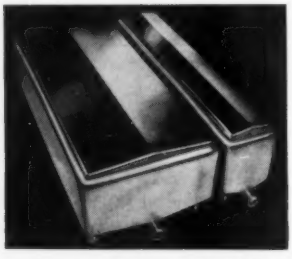


Saucier Stainless Steel DUMP TANKS-WEIGH CANS

(FOR GRADE "A" MILK)



Two compartment weigh can with 750 lbs. capacity for "Grade A" milk.



Two compartment dump tank with 1,000 lbs. capacity for "Grade A" milk.

Fluid milk consumption is increasing more rapidly than production in the heavily populated areas, and milk dealers in those areas are going farther afield for their milk supplies.

They require and demand GRADE A milk. Grade A regulations are spreading rapidly from state to state.

Your production starts *in the receiving room* with weigh cans and dump tanks. Install SAUCIER weigh cans and dump tanks for greatest efficiency and lowest costs, custom built for your individual needs, but available at standard prices. SAUCIER weigh cans and dump tanks meet all Grade A and sanitary regulations.

SAUCIER products are made with extra fine craftsmanship and attention to detail, and incorporate all the most modern features such as easy and accurate sampling, and Saucier's exclusive Canadian type self-centering valve. Call your dairy supply distributor for complete information and prices, or write

Chas. Saucier & Son, Inc.

Custom Built Stainless Steel Dairy Equipment

2306 W. Broadway, Minneapolis 11, Minnesota

DISTRIBUTORS

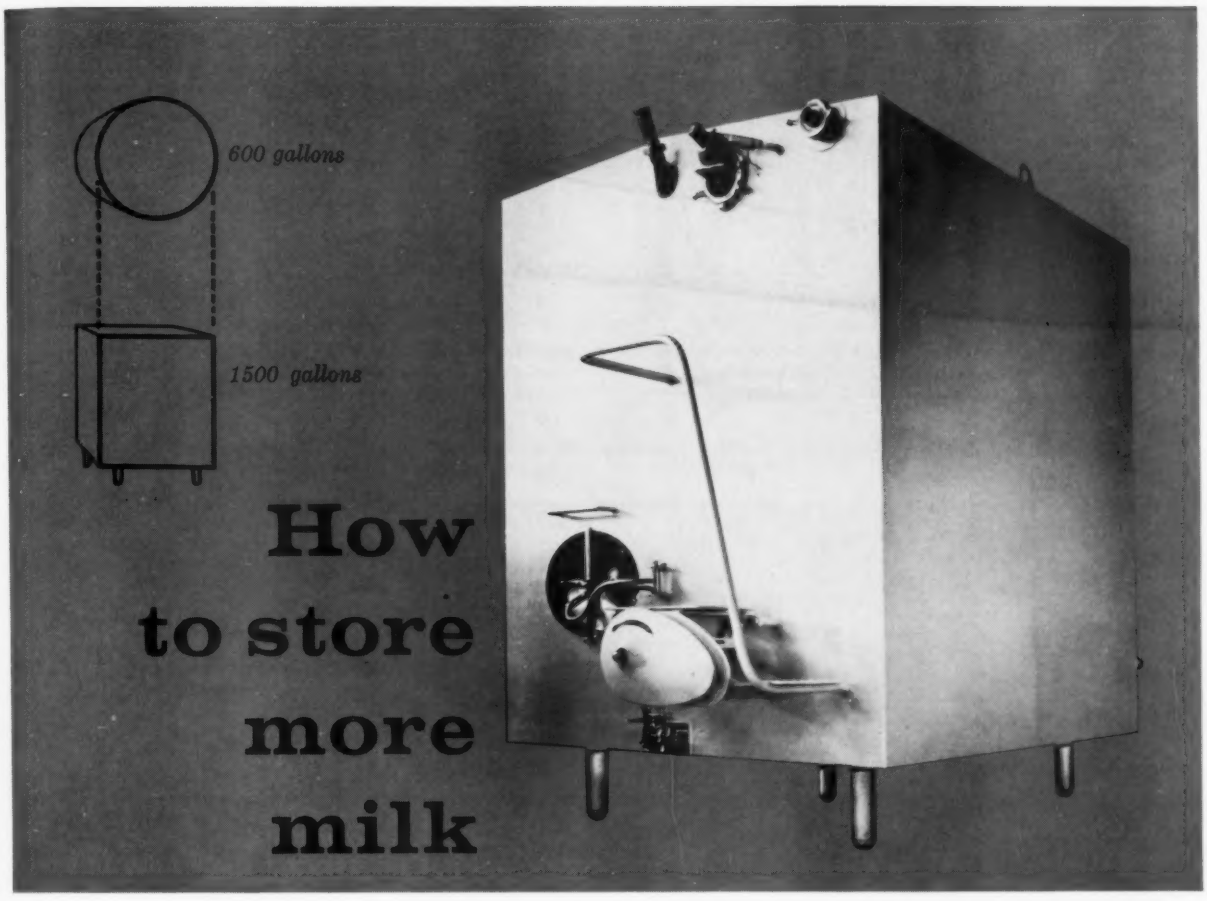
Territories are open for dairy supply distributors. Write for complete information today.

SAUCIER

ESTABLISHED 1902

STAINLESS STEEL PRODUCTS

MINNEAPOLIS, MINNESOTA



without more floor space

You can increase storage capacity—up to 150%—without increasing floor area, when you replace cylindrical tanks with Pfaudler "rectangulars."

For example, a 1500-gallon "rectangular" requires no more space than a 600-gallon cylindrical tank; a 3000-gallon "rectangular," no more than a 1500-gallon cylindrical tank. Moreover, "rectangulars" can be placed side to side and walled in, saving the aisle space usually required between cylindrical tanks. Pfaudler "rectangulars" solve your milk storage expansion problems *economically*.

In addition, you get these operating advantages:

Easier cleaning—no slippery, sloping sides

Low-positioned agitator—effective even when the tank is partially filled

More efficient agitation—because of the baffling effect of the tank shape

Accessibility—fittings easily reached from platform . . . lower, more accessible manhole opening . . . less ceiling height needed to remove Telegage connection.

For complete information, send for Bulletin No. 922, or call your Pfaudler Dairy Jobber. West of the Rockies, write or call Pfaudler Sales Co., San Francisco, California, or Portland, Oregon.

DESIGN FEATURES THAT HELP YOU TRIM PROCESSING COSTS:

1. Rotary seal—The simplest design on the market—ONE-PIECE—and only one-piece nylon seal slips on agitator shaft in a few seconds—makes a tight seal—cleans easily—saves time.

2. Stream-flo agitator—Three-blade agitator coupled with one-speed motor gives you a standardized product in minutes, without foaming.

3. No-foam inlet—Unique design eliminates foaming, is much easier to clean.

4. Air vent—Easy-to-clean slot-type construction—same opening is used for Telegage measurements.

5. Insulation—Side wall—3", with 2½" minimum over wall cooler.

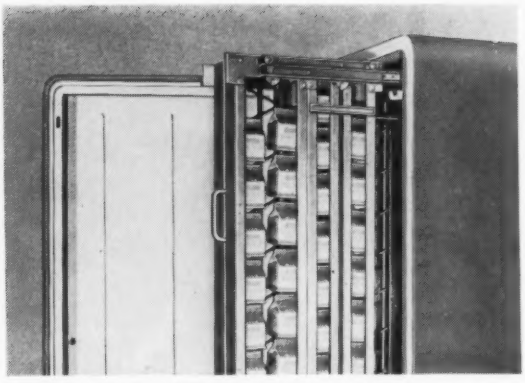
6. Manhole door—Insulated, swings in—then out. Disassembles in 10 seconds for cleaning.

7. Wall cooler—ASME code-approved construction for ammonia or Freon. Performance tested and proved in hundreds of installations.

Milk storage tanks by Pfaudler *are used in more dairies than any other make!*

THE PFAUDLER CO., ROCHESTER 3, N. Y.

LOADING IS A SNAP. Routeman slides rack out, removes retainer bars. Then he stacks the cartons in place and puts back retainer bar. All done in minutes—quickly and simply.



INTERIOR MECHANISM IS SIMPLE. You will cut service calls to a money-saving minimum because the machine is so simple. There are no belts, no conveyors.

NORRIS 3-DRINK VENDER SELLS MERCHANDISE . . . makes more money for you. The lighted vender front attracts customers. The simple coin drop helps them make correct selections. You can gain more locations, more sales with this machine.

NORRIS 3-DRINK CARTON MILK VENDER CAN MAKE MORE MONEY FOR YOU

You can move more merchandise with this new vender. Two special features have been built in to increase your profits.

The cool-looking dairyland scene lights up to form a colorful setting for the window display of products you vend.

The simple coin drop invites initial and repeat sales. Gone are the levers, buttons and dials. Customers' errors are virtually eliminated because this vender is so simple to operate.

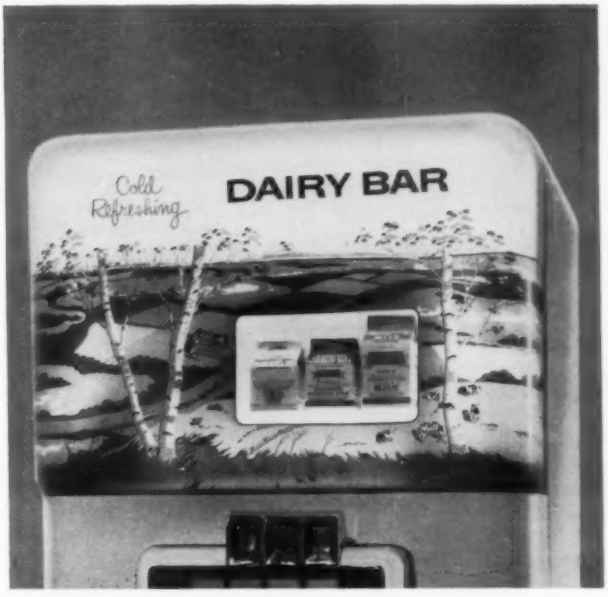
This handsome machine will earn new locations for you and keep your established locations sold.

Norris Venders have become known for rugged construction that rarely needs service. Now, with new lighted front and new simple coin drop, this Norris 3-Drink Vender is the machine you want to make you more money.

NORRIS 3-DRINK VENDER
from the greatest name in milk dispensing

NORRIS DISPENSERS, INC.
2720 Lyndale Ave. So., Minneapolis 8, Minnesota

Write today for new **FREE** brochure: Dept. AMR67



NEW VENDER FRONT LIGHTS UP. Colorful dairyland scene stops customers, starts sales of the products displayed in the window. Panel itself is made of chip-proof plastic, back lighted for impressive effect.

EW COIN DROP IS SIMPLEST BUILT. Customers select each drink by dropping oin in a separate channel. There are no dials, no levers, no buttons and only e coin changer. Errors are virtually eliminated.

OFFER YOUR CUSTOMERS THREE SELECTIONS. Vends any three drinks you choose—in ½ pint or ⅓ pint cartons. Capacity is 216 cartons or 168 pints.

From the State Capitols

By BETHUNE JONES

- **One-Man Milk Commission Suggested in Virginia**
- **Milk Imports Issue in Rhode Island**

VIRGINIA:

One-Man Milk Commission Suggested

Creation of a new one-man State Milk Commission to replace the present three-member price-fixing agency was suggested at a hearing conducted (May 8) in Roanoke by a Virginia state legislative interim committee studying the state's milk control laws to determine what, if any, changes should be made.

The suggestion came from the present commission's chairman, Virgil P. Randolph Jr. of Gloucester, who emphasized he would not be the slightest bit interested in being the single commissioner if such were established.

At an earlier public hearing in Richmond, the legislative study group heard the Virginia Food Dealers' Association urge that the three-man commission be increased to seven with the addition of two more public representatives, an independent food store retailer and a chain store retailer. The larger commission, its advocates contended, would give greater consideration to public wishes and changing merchandising patterns.

Randolph declared, however, it was the conviction of all three present members "that any increase in membership would curtail the working efficiency of the commission in progressive fashion."

As for his own views, the chairman said: "I feel that the present number is far preferable to a greater number, but I feel that for the best administrative efficiency, and for the greatest public acceptance, the commission should be reduced to one member who would hold it as a full-time job, and be paid a salary handsome enough (with $15,000 a year as a minimum) to attract a top-notch administrator."

He said that lengthy meetings are already required to allow the present three members to express opinions and an enlarged commission would take much more time.

As to charges that the two industry members sometimes "gang up" on the lone non-industry member, Randolph said he had found that "in practically all split decisions, it has been the non-industry member that holds the balance of power."

RHODE ISLAND:

Milk Imports to Get Closer Control

After failing during the 1957 Rhode Island legislative session to obtain control over all milk sanitation func-

New Culture Combinations

"HANSEN'S"

DRI-VAC

T. M. REG. U. S. PAT. OFF.

100% Pure Active Selected Cultures

"Hansen's" Dri-Vac Cultures are offered in a variety of unrelated lactic combinations with a choice of various acid and curd producing properties.

Culture No.

1, 2, 3, 5, 11, 18 } Produce a *mild pleasant flavor*, desirable for fermented milk products and cheesemaking.

4, 6, 9, 10, 12, 15 } These cultures are capable of *high flavor production*. Also excellent for cheesemaking if over ripening is avoided.

USE A FRESH BOTTLE *Regularly*

ALSO COMBINATIONS OF PURE S. LACTIS CULTURES FOR CHEESEMAKING ONLY

CHR. HANSEN'S LABORATORY, INC.
9015 W. MAPLE STREET MILWAUKEE 14, WIS.

FESCO C. I. P. VALVES

(Patent Pending)

Recent extensive tests with radioactive calcium added to milk to determine recirculation cleaning of our automatic valves have proven conclusively *they will clean 100%*. (American Milk Review, April 1957, Page No. 50, Table No. 2.)

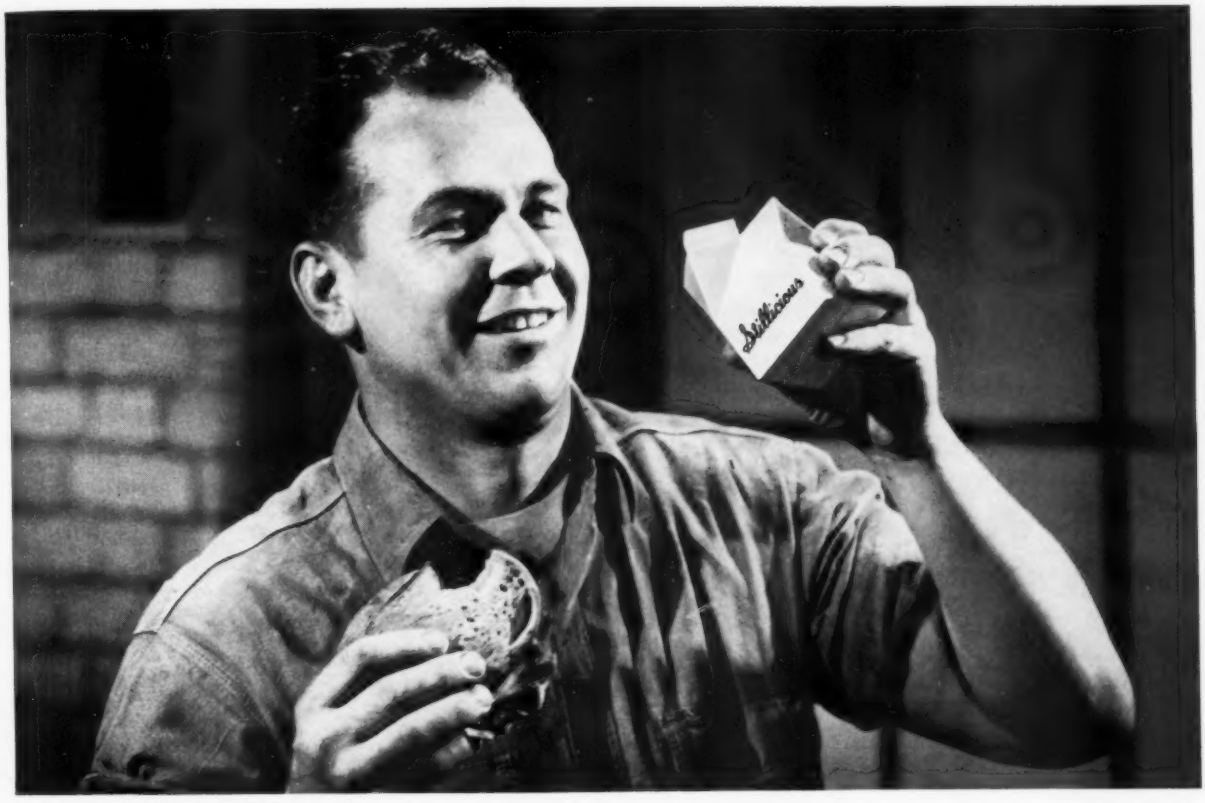
161-10-10 Size

161-21-10 Size

161-40-20 Size

For Automatic C.I.P. Valves
CONSULT FESCO

FOOD EQUIPMENT & SPECIALTIES CO.
1415 LAKE AVENUE WILMETTE, ILLINOIS



Pint-size bottle baby!

He gets his half-pint every day . . . for lunch. Usually has another one during a break.

Why? Because *he likes the flavor* of Stillicious Dairy Chocolate. And he gets it so readily in the plant lunch room, or conveniently located carton vending machines.

He's a dairyman's dream. Every working day, he—and many thousands like him—buy high-profit dairy chocolate. Recent figures from dairies operating vending machines show he *prefers* it to "white" milk . . . *yet, total milk sales are larger in those machines offering dairy chocolate!*

You can sell the industrial market. A modest investment and planned selling procedures available to dairies handling Stillicious Dairy Chocolate is all you need.

Want to know more about it? Write.

SYRUP USERS!

You save approximately 10% on freight, do away with return shipments of empty milk cans or drums...and save needed floor space with new Stillicious STILLTAINER. Carton holds 55 lbs., is easy to open, easily disposed of. Syrup pours from sanitary, protective polyethylene liner.

Stillicious

DAIRY CHOCOLATE

DELICIOUS HOT OR COLD

CHOCOLATE PRODUCTS COMPANY

413 WEST SCOTT ST., CHICAGO 10, ILL. • 741 KOHLER ST., LOS ANGELES 21, CALIF.

tions of state government, the State Department of Agriculture and Conservation won part of its fight by executive order.

State Agriculture Director John L. Rego announced that State Health Director Edward A. McLaughlin returned to the agriculture department, as of May 15, all power to issue permits for the importation of milk from outside the Rhode Island milkshed.

Such milk import authority and more had been sought unsuccessfully by Rego during the recent state legislative session through a bill which passed the State Senate but died in the House.

Rego said Dr. McLaughlin subsequently told him in a letter that the new 1957 general laws to be issued in the fall demonstrate clearly the authority to issue milk import permits is by law within the jurisdiction of the agriculture department.

That authority became part of the health department's work in 1942 when the late Dr. Raymond G. Bressler, then agriculture director, wrote a letter to Dr. McLaughlin saying that since the health department was supervising all other milk sanitation functions at the consumer level, it might just as well take over import permits.

The milk import permits during the last few years have been a source of controversy between some milk dealers and farmers. The latter appealed to Rego with the argument that importation of too much out-of-state milk had the effect of lowering the farm price of milk without benefiting the consumer. They argued that dealers buy "cheap milk" from upstate New York and northern New England simply to make more money.

As a result of the new stand taken by Dr. McLaughlin, it was announced that the milk import permits, effective May 15, would be placed under the jurisdiction of Dr. Thomas J. Grennan, who is Rego's chief of animal industry.

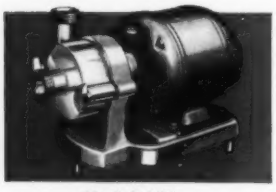
Rego said letters would be sent to all importing dealers advising them of the new program. He added that the dealers would be invited to meet with him and that a set of regulations would be worked out.

"We will insist upon one thing," Rego declared. "The Rhode Island law says that milk cannot be imported from animals whose health standards are not equal to those of Rhode Island cows. We will follow that to the letter.

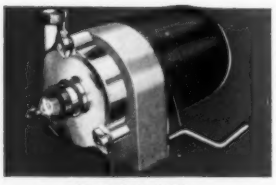
"If some dealers now are importing milk from areas where the animals are not certified as being equal in health to those of Rhode Island, we will give the dealers a little time to find new sources that do meet the law, but we expect to be completely conforming to the law by July 1."

G AND H

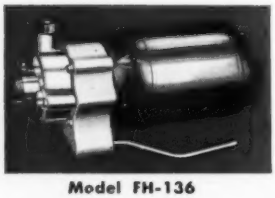
THE STANDARD OF QUALITY IN Centrifugal Pumps



Model 136



Model F-140



Model FH-136

Performance-tested "G & H" Centrifugal Pumps are designed to meet the exacting requirements of the dairy and food processing industry. Every pump is individually tested and proved at the factory for volume, head, and vacuum. There is a model for every need.

PORTABLE CLEAN-UP PUMPING UNIT

— saves hours of maintenance time — move it right up to the job. 3-Caster Dolly, properly balanced for easy handling. 60-cycle 3450 RPM motor is totally enclosed. ½, 1, 2, 3, 5, 7 or 10 H.P.

WRITE For Illustrated Bulletins and Prices

G AND H PRODUCTS CORPORATION

2407 52ND STREET • KENOSHA, WISCONSIN

Paul Girton

Theodore Laursen

Fred Doyle

Iver Youngquist

T. Kline Hamilton

Mose Kiser

Adrian Wadsworth

National Dairy Council Names 19 Men to Board of Directors

NINETEEN MEN have been named to serve on the board of directors of the National Dairy Council for the first time. They represent a cross-section of all components that make up the dairy industry and have proven themselves leaders in their respective fields.

Among them are processors, distributors, supplies and producers.

They are: Leo H. Benson, State Brand Creameries, Inc., Mason City, Iowa; Iver Youngquist, Vernway Farms, Bow, Washington; Adrian Wadsworth, Connecticut Milk Producers Association, Hartford, Connecticut; Fred Doyle, dairy farmer, Topeka, Kansas; R. P. Kapp, Edisto Farms Dairy, Columbia, South Carolina; Hunt Hamill, Krim Ko Corporation, Chicago, Illinois; Elfreth Johnson, White Dairy Farm, Birmingham, Alabama; R. O. Jenkins, Pet Dairy Products, Johnson City, Tennessee; Theodore Laursen, Michigan Milk Producers Association, Marlette, Michigan; R. E. Olson, Taylor Instrument Company, Rochester, New York; T. Kline Hamilton, Diamond Milk Products Company, Columbus, Ohio; Paul Girton, Millville, Pennsylvania; L. N. Lucas, Bastin-Blessing Manufacturing Company, Chicago, Illinois; Walter Moore, Denver Milk Producers Association, Denver, Colorado; J. M. Forbis, Forest Hill Dairy, Memphis, Tennessee; R. J. Ryger, Midwest Producers Creameries, South Bend, Indiana; Mose Kiser, Guilford Dairy Cooperative Association, Greensboro, North Carolina; Bruce Baldwin, Abbotts Dairies, Philadelphia, Pennsylvania; and Will A. Foster, the Borden Company, New York.

Hunt Hamill

Will A. Foster

J. M. Forbis

Elfreth Johnson

R. O. Jenkins

R. J. Ryger

Leo H. Benson

L. N. Lucas

Walter Moore

Bruce Baldwin

R. E. Olson

R. P. Kapp

XUM

AUTOMATION IN CLEANING

(Continued From Page 40)

a pipeline is placed inside a milk tank and milk is allowed to come in contact with the fittings, it would appear that crevice contamination would be possible.

Permanent installation in an existing tank often requires cutting holes in the tank and welding joints to the lining. This is something that should be done with caution and if any plant operator decides to make modifications of this type, he should make sure they are done only by an expert. Otherwise, much expensive equipment could be damaged beyond repair.

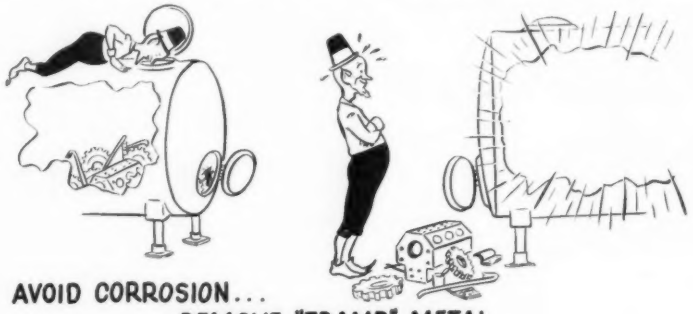
A lot of experience has been recorded on spray cleaning of tanks. It has been found that this method is entirely satisfactory, both from the standpoint of time saving and sanitary conditions of the tank after cleaning. Possibly the major problem that has been encountered in cleaning storage tanks by mechanical means is the impracticability of using hot water in a cold wall tank. Most tank manufacturers recommend that water placed in a cold wall tank should be less than 120° F. Cleaners will perform at temperatures lower than 120° F. but they do not perform as well. It is up to the cleaner manufacturers to now develop a cleaner that works efficiently at tap water temperatures. This would eliminate any danger of injuring the tank due to the expansion of ammonia or eliminate the necessity for pumping the ammonia from the tank before cleaning.

A few long tank-truck washers are in operation. Most of those encountered are rotating sprayers with a spray head rotated by means other than the solution. These sprayers have been satisfactory in use but are rather expensive and often require adjustment to conform to different length tanks. A simple, more inexpensive spray developed for this type of cleaning would, no doubt, be a great boon to the industry.

Farm bulk pick-up tankers are rather easily spray cleaned. They are short, usually about 12 feet in length, are quite uniform, and thus a simple spraying device works very satisfactorily in them.

There are a couple of cautions to observe when washing any type of a tank or tanker. For some reason there seems to be a great deal of "tramp" metal and sand in tanks and tankers. When these are washed by hand, metal and sand are pretty well removed by the brushing and rinsing from the inside. When they are cleaned by mechanical methods, however, the sand or metal is allowed to stay in the same place on the bottom of the tanker. In the presence of moisture, iron especially causes exceedingly rapid corrosion of the stainless steel. It is, therefore, necessary to inspect tankers frequently to insure that no foreign particles are left in the bottom. Care must be used by the man entering the tank not to track in sand and other foreign particles on his boots.

As far as is known, very few processors are being washed with mechanical methods at this time. By processors are meant vat type pasteurizers, mix vats, buttermilk tanks and so forth. They should be cleaned approximately in the same manner as any other type of tank, except stronger chemicals may be necessary in some cases. The main difficulty with mechanical or spray cleaning of processors is keeping the cleaning solution on the inside of the vat. Vat covers are made to prevent anything from the outside dropping into the vat but make no provision for keeping pressure sprays inside the vat. When at all possible, spray cleaning of this type of equipment should be done with a cleaner that is mild enough not to strip the paint from the outside of the vat in case it is painted and not to cause severe irritation to the workers' hands.



AVOID CORROSION...
REMOVE "TRAMP" METAL

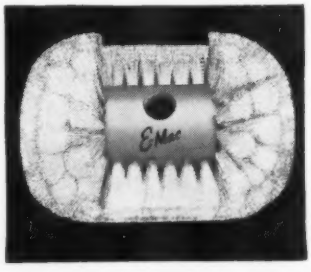
Conclusions

Automation in cleaning, or mechanical cleaning, has made great advances in the last few years. Mechanical cleaning of bottles, cans, pipelines, and evaporators is commonplace. Me-

Holding Tank Brush
No. 2060 Medium Stiff Fibre No. 2062 DuPont Nylon

TANK BRUSHES

SANITARY PIPE, BEND AND FITTING BRUSHES . . . TEAT CUP BRUSHES . . . CAN AND PAIL SCRUBS . . . MILKING MACHINE BRUSHES . . . FLOOR SCRUBBERS . . . LABORATORY BRUSHES . . . TRUCK AND WALL BRUSHES . . . DAIRY BROOMS . . . VALVE BRUSHES . . . METAL SPONGES.



Farm Tank Brush No. 2085 Bristles of DuPont Tynex crimped nylon hold more water.

Write for Catalog showing our complete line of DAIRY BRUSHES, THERMOMETERS, RUBBER FOOTWEAR, APRONS, HOSE, GLOVES, CREAM SEPARATOR AND MILK CLARIFIER SEALS and HOMOGENIZER PLUNGER PACKING.

E-Mac DAIRY BRUSH CO., INC.
READING • PENNSYLVANIA

chanical cleaning of storage tanks, tank trucks, and processing vats is becoming more and more widely accepted.

In spite of the progress made in mechanical cleaning, there is still much equipment that is not adaptable to these methods. Among this equipment are positive pumps, three-way valves, bottle fillers, and many, many others. Also, most equipment should be disassembled for inspection and air drying after cleaning. New types of metals and different fabrication of equipment are necessary to eliminate disassembly.

Only through the cooperative efforts of everyone in the dairy industry as well as everyone in the allied trades can real progress be made in mechanical cleaning.

The prospect for the future, however, is better cleaning, more efficient cleaning based on sound principles and sound techniques.

●

LABOR RELATIONS

(Continued From Page 44)

when they were temporarily assigned to help him with part of it.

2. The light chores they did were about on a par with their regular work, so their usual pay is all they're entitled to.

Was The Company:

RIGHT ☐ **WRONG** ☐

What an Arbitration Board ruled:

"The guide for the Board must be the agreement between the parties. In the agreement the parties have not provided that employees temporarily transferred to a high-rated classification must perform all the duties of that classification before being eligible for the higher rate. Nor have they provided that such employees must perform the major duties of that higher classification. They have simply stated that 'employees who are required to work on a job classification other than their own' will be entitled to the rate of that classification if the rate is higher than the rate of their regular classification. The language is clear. The facts are agreed upon. The girls did work in a classification other than their own. Under the agreement, therefore, they must be paid the higher rate."

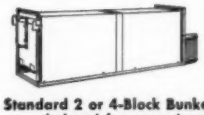
Foster-Built truck bunkers will

Cut Refrigeration Costs

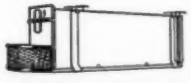
Efficient Refrigeration Cold air from dry ice is circulated through truck body twice by electric blower for *double* efficiency.

5 Models for every type of refrigeration

New Frigi-Matic . . . maintains uniform temperatures from 0°F. to any temperature load requires.

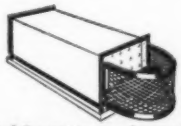


Standard 2 or 4-Block Bunker . . . designed for general purpose refrigeration. Holds temperatures 48 hours.



Rear Loader . . . designed for extended refrigeration periods of 50 hours or more. Permits easy re-icing.

Super Cold Shot . . . air is "double shot" over dry ice. Maintains refrigeration on routes with frequent door openings.



Refrigerette . . . for smaller trucks, such as Vanette or Metro. Operates on same principle as Standard.

Low Initial Cost...

No large investment . . . Foster-Built Dry Ice Bunkers are only a fraction of the cost involved for installing most mechanical systems. Foster-Built offers you the most *dependable, low-cost* truck refrigeration on the market today!

Lower Operating Cost...

Foster-Built Bunkers efficiently utilize dry ice, effecting savings as much as 25%. New Frigi-Matic Temperature Control maintains *constant* temperatures. Trouble-free . . . there's no possibility of load loss due to mechanical breakdown.

Lowest Maintenance Cost...

Maintenance-free operation . . . rugged, simple design virtually eliminates repair bills. Mechanical blower is the only moving part.

MAIL COUPON FOR *FREE* INFORMATION

FOSTER-BUILT BUNKERS, Inc.
Dept. AM-5, 516 S. Laflin St., Chicago 7, Ill.
Telephone, MOnroe 6-6880

Gentlemen: Please send information on:
☐ Complete line of Foster-Built Bunkers ☐ Dry Ice Warehouse List

Name .....
Company .....
Address .....
City ..... Zone ..... State .....

FOSTER-BUILT *DRY-ICE* BUNKERS

ATOM IN DAIRY INDUSTRY

(Continued From Page 28)

watts which is far too low to cause flavor or other changes in the product.

Generally, the overrun can be measured accurately with a 1% error. Variations of fill volume between the packages from automatic machines can contribute to some difficulty in correlating gauge and weight data. However, Industrial Nucleonics reports that in spite of filler introduced variations good correlation has been obtained between the nuclear gauge and weighing packages.

At the present time, automatic overrun control where the measuring device is attached to control equipment for correcting the freezer continuously to give a constant overrun is not commercially feasible. Nevertheless, this is a definite possibility of the future. Additional information and research is needed before automatic control can be successfully accomplished.

This provides an illustration of the first application of a nuclear gauge to the dairy field. Other applications doubtlessly will follow and may include the control of the level of fill in milk bottles, control the moisture content of cheese curd, control of fluid milk processes by using continuous, very sensitive, density measurements. Maintenance applications, such as finding leaks in water mains under plant floors are already being suggested.

Radiation Sterilization: The concept of using radiation to destroy microorganisms is not new. Shortly after the discovery of radium and X-rays this possibility was explored. However, only since the discovery of the energy possibilities of the atom has radiation sterilization been widely considered. The basic aim is to destroy bacteria and other microorganisms in food without causing the changes that occur by heat sterilization. The accrual effect of radiation is still not clearly understood but it is generally believed that nuclear rays strike the microorganisms in much the same manner as a fast moving projectile strikes its target. These nuclear bullets may kill the bacteria or so upset the internal system that they no longer can survive or reproduce.

The basic nature of the radiation of the irradiating source must be considered in selecting the type of material or isotope to be used. Neutrons, although effective, have been discarded because they would produce induced radioactivity. Generally, the source is restricted to isotopes emitting gamma rays or electrons, with gamma rays being preferred because of their greater penetrating ability.

According to the Quartermaster Food and Container Institute (Proceedings Symposium on Radiation Sterilization of Food, June 10, 1955) which is concerned with a majority of the research on radiation sterilization of foods, milk is extremely sensitive to radiation damage and an oxidized chalky or burnt flavor results. At 100,000 roentgen equivalent physical (rep), which is considered a relatively low energy levels for radiation sterilization, undesirable flavors have been reported. Nor has success been obtained with treatment of concentrated milk, dried milk, or butter. With butter, oxidations occur which result in bleaching and the development of tal-

lowy off-flavors. With cheese, undesirable physical and chemical changes are noted. At 800,000 rep. malty odors and slight tallowy flavors were observed in soft-ripened cheese. However, processed Cheddar and cottage cheeses were found to withstand 50,000 to 100,000 rep. The treatment of Cheddar cheese with relatively low levels of gamma radiation has resulted in a product with a much longer shelf-life than the untreated control (Figure 8). Some undesirable flavors were observed after initial treatment, which disappeared after 6 months of storage.

Recently Dr. B. E. Proctor of M.I.T. has reported that radiation treated milk can be put through a steam vacuum treatment to eliminate off-flavors and thus a process has been developed that results in a satisfactory product.

Summary

Radioisotopes are finding application in research, processing control, and radiation sterilization in the dairy industry. These uses are in early developmental stages, but promise to have a great influence on processes used in the Dairy Industry. Future applications, many of which would sound out of the realm of reality today, undoubtedly will be made in the next ten years. The Dairy Industry should become better acquainted with radioisotopes so as to be in a position to utilize these excellent tools to the best advantage in processing control and development.

●

ADA SALES STUDY

(Continued From Page 78)

need to improve the social standing of milk among consumers.

8. Some homemakers do not realize that some members of their families do not get as much milk as they want.
9. "Drink Three Glasses of Milk Every Day" is remembered by consumers. (a) More people say they need three glasses a day. (b) More people measure requirements in terms of glasses.
10. One-fourth of all homes serve cheese on an average day. This increases to one-third on Fridays, but declines on week-ends.
11. Cheese is most frequently served at home for lunch, and the usual method of serving is in sand-

(Please Turn to Page 120)

In dairies today...

it pays to take a

Plant-Wide Look

at weighing!

which do you have...

isolated scales... or a modern weighing system to control your costs?

The dairy industry is under pressure... to reduce costs... raise efficiency. And managements today see *weighing* in a new perspective—not as isolated scales, but as a vital element in the overall cost-control system. This means the right scales in the right places... to supply basic accounting records of materials received, processed, shipped, transferred.

Weight records directly affect costs, inventory control and customer billings. Weights must be right the *first* time. Whether discovered or not, weighing errors can lead to losses in profits and customer good-will.

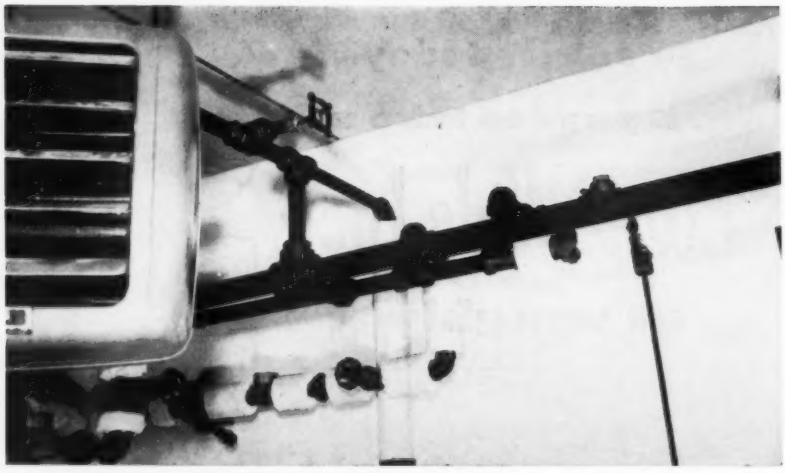
To assist you with your "weight control" problems, Toledo offers the choice of a complete line of models, plus the experience and services of factory-trained representatives conveniently near you.

NEW* TOLEDO WEIGHT FACT KIT... *Shows you the job your scales are now doing! This new Toledo Weight Fact Kit will help you determine how well your scales measure up as a *weighing system*—show you if any scales are "misfits" in capacity, application or location—help you detect weighing inefficiencies that drain off profits. It's free—no obligation! So be sure to request yours. Address Toledo Scale Co., 1406 Telegraph Rd., Toledo 1, Ohio.

TOLEDO®

HEADQUARTERS FOR SCALES

SERVICE Factory-Trained 200 Cities



A valve installed in May, 1954, is still in service today with a minimum of attention. Valve failure at this point usually occurred within three to six months.

New Valve Saves Time, Money At Queensboro, N. Y., Plant

ELBERT POLMATEER, chief engineer and maintenance supervisor of the Queensboro Farm Products Company plant at Canastota, New York, has found a way to cut valve maintenance costs.

Queensboro processes cheese, cream, condensed milk, ice cream mix and allied products in huge quantities.

Under this heavy pounding, the valves were in constant need of repair. New composition discs, seats needing refacing, stainless steel seats and discs had to be removed and replaced. A small staff of maintenance personnel, selected to keep the plant's major equipment functioning, was being overburdened by constant small-valve repairs.

To combat this problem, Mr. Polmateer installed LQ600 bronze globe valves on a trial basis. The results were so satisfactory that many steam valves at Queensboro were replaced with the LQ600. He found that the valve has a very high resistance to wire drawing and corrosion and the development of the microscopically flat seat and disc design, which in four years of field testing prior to the installation at the Queensboro plant, necessitated no repairs or replacements of seats or discs.

The major aftermath of the use of the LQ600 valves, made by the Lunkenheimer Company of Cincinnati, Ohio, is the release of maintenance personnel for the primary job of maintaining the plant's production capacity.

NEW IDEAS FOR AUTOMATION

The automation engineers in this country are again conducting an inventors' contest this year. New ideas in automation will be judged from all fields of instrumentation. It is now generally conceded that through the intensive development of automation will come the increased productivity, higher standards of living and more leisure time so important to all of us.

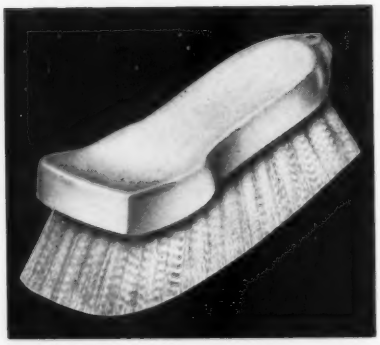
The second "New Ideas in Instrumentation Contest" searching for outstanding technological advances in the broad field of automation will be conducted by the Instrument Society of America as a part of the 12th. Instrument - Automation Conference and Exhibit to be held in Cleveland, September 9-13, 1957. Cash prizes will be awarded to winners but more important to contestants is the potential commercial development of outstanding ideas through the publicity. Last year over 30,000 instrumentation and automation equipment manufacturers and users attended the Conference and Exhibit.

Entries will be judged on novelty, practicality and adaptability. Entries are encouraged from all sources and are not limited to members of the Instrument Society of America. Deadline for entries is July Fifteenth (15th).

Automation in the dairy industry has centered around cleaning operations. One factor that has tended to slow down the tempo of development in this field has been the lack of a valve designed for automation.

Entry blanks for the "New Ideas in Instrumentation Contest" may be obtained from S. D. Distelhorst, Director of Membership Relations, Instrument Society of America, 313 Sixth Ave., Pittsburgh 22, Penna.

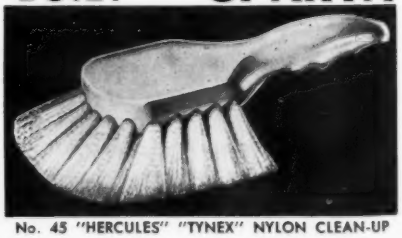
THE MOST POWERFUL BRUSHES EVER BUILT – SPARTA



No. 43 "VIKING" "TYNEX" NYLON PAIL BRUSH

Outlast — Outperform All Others

Nothing can match these super-sanitary power-packed Sparta "Exclusives" for toughness, amazingly long wear, and balanced easy handling. Regardless of what kind of brushes you have used before, the Sparta "Hercules" or "Viking" will deliver service far beyond the limits of your expectations. Contour designs with "deep-anchored" tufts that won't stray out or pull out, plus stiff crimped white "Tynex" nylon bristles that retain their snappy cleaning action under the hardest service.



No. 45 "HERCULES" "TYNEX" NYLON CLEAN-UP

Outwears up to $30.00 worth of ordinary brushes. Stepped-up scrubbing power with direct contact bristles. Heavily packed with thick crimped tufts. Balanced contour grip with handle hole.

SPARTA BRUSH CO., INC., SPARTA, WISCONSIN

(Continued From Page 86)

ductions could be expected for other sizes of milk processing plants.

Recommendations

The waste conditions at every milk processing plant are different since the unit strengths and volumes of waste products will vary from one plant to another. For this reason, it is recommended that, in considering a waste treatment problem, a competent sanitary engineer be retained to make a detailed study of the processing plant operation to determine first what waste control measures would be feasible and economical. After these waste control measures are in effect, the engineer should make a complete chemical and physical analysis of the wastes at the particular plant. The strength and volume of the waste can then be projected to future maximum production for use in the design of the waste treatment facilities.

After the volume and strength of the waste is known, the engineer must determine the most effective method for treating the wastes to prevent a nuisance or stream pollution problem. He should then consider the cost of various types of milk waste treatment as well as the costs of discharging the waste to a municipal sewer system, if one is available. The initial costs, operational costs, maintenance costs, and effectiveness of all methods studied will determine the final decision on how to treat the milk wastes at any particular milk processing plant.

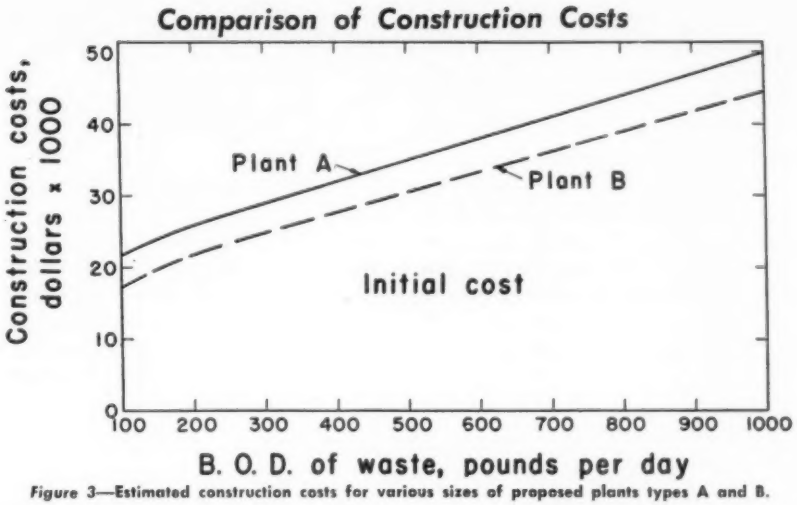


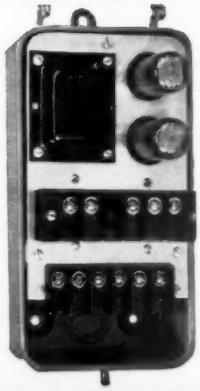
Figure 3—**Estimated construction costs for various sizes of proposed plants types A and B.**

If an overall waste treatment plant removal of about 95 per cent of the B.O.D. is adequate, and if consistent dependable operation and results are required, a single or two-stage, high-rate trickling filter should be considered.

Summary

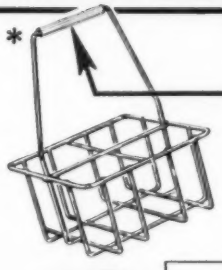
The enactment of stream and lake pollution laws has created a serious problem for many milk processing plants. Management is confronted

To Accurately
CONTROL
THE LEVEL OF
MILK and LIQUID FOODS
In Tanks - Boilers - Reservoirs - Vats
Pasteurizers, Etc. - Install a
LUMENITE ELECTRONIC MILK LEVEL CONTROL



No Floats-
No Moving Parts-
Accurate to 1/100 Inch - Instantly Installed - Never Needs Servicing
Write for Bulletin FNM
Lumenite Electronic Company
ENGINEERS · DESIGNERS · MANUFACTURERS
407 S. Dearborn Street Chicago 5, Ill.

HAYNES Carry-Baskets



with the NEW
*CUSHION GRIP HANDLES
promote
Dairy Product Sales
Bottled milk becomes "so easy and safe to carry"

LOW COST
LIGHT WEIGHT
STURDY
ALL WELDED
CONVENIENT
HANDY
EASY TO CARRY
RUST PROOF
(SPECIAL BRIGHT ALUMINUM COATED FINISH)
ATTRACTIVE

8 STOCK SIZES

Model	Size	No. Packed to Carton	Shipping Wt Per Carton
4 S	4 Sq. Quart Bottles	10	7 lbs.
6 S	6 Sq. Quart Bottles	6	6 lbs.
8 S	8 Sq. Quart Bottles	6	7¼ lbs.
4 R	4 Rd. Quart Bottles	10	8 lbs.
2-½ SR	2 Sq. or Rd. ½ Gal. Bottles	10	7 lbs.
4-½ SR	4 Sq. or Rd. ½ Gal. Bottles	6	7¼ lbs.
2-½ O	2 Oblong ½ Gal. Bottles	10	7 lbs.
4-½ O	4 Oblong ½ Gal. Bottles	6	7¼ lbs.

THE HAYNES MANUFACTURING CO.
709 WOODLAND AVENUE • CLEVELAND, OHIO

with the problem of providing adequate treatment facilities for their milk wastes. The effect of the cost of milk waste treatment on the production cost of milk products is, therefore, a subject that needs study.

To provide the necessary engineering data for this economic study, field surveys were conducted to determine operating costs and efficiencies of two types of treatment plants. Only plants operating successfully, without creating an odor or stream pollution problem, were considered. Two plants, both in Wisconsin, were studied in detail. One plant was a single-stage, high-rate, trickling filter plant and the other was a two-stage, high-rate, trickling filter plant.

Data necessary to calculate the milk losses, treatment plant unit loadings, and efficiencies were obtained during the field studies. These data were then used to design typical milk waste treatment plants of various sizes and to determine their construction and operating costs. A waste prevention program was initiated in each plant to determine the percentage of milk solids and waste water that could be saved by good waste saving control in milk processing. When the volume and strength of the milk waste is reduced by waste control measures in the processing plant, the construction cost and annual expense of the waste treatment plant may also be reduced.

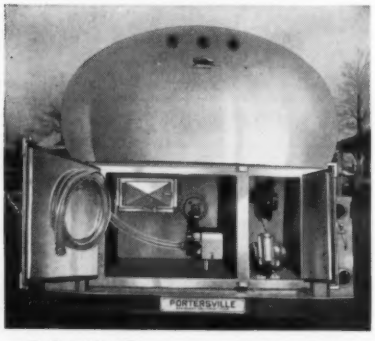
The results described in this paper may be used by the management of a milk processing plant to estimate the cost of treating their milk wastes on a high-rate, trickling plant. They also illustrate the savings that may accrue from an effective waste control program.

List of References

1. Eldridge, E. F. Milk Products Waste. Industrial Wastes—Their Disposal and Treatment, William Rudolfs, ed., Reinhold Pub. Corp., New York, 1953, p. 31-50.
2. Martinez, J. E. Treatment of Milk Wastes on High-rate Trickling Filters. Unpublished M.S. Thesis, Iowa State College Library, Ames, Iowa. 1950.
3. Campbell, W. B. The Dairy Industry Committee Exhibit on Waste Savings; 5th Industrial Waste Conference Proceedings. Eng. Ext. Series No. 72, p. 407-411. Purdue University, 1950.
4. Rugaber, J. W. Milk Losses; 7th Industrial Waste Conference Proceedings. Eng. Ext. Series No. 79, p. 474-480. Purdue University, 1952.
5. Task Committee on Dairy Waste Disposal, Dairy Industry Committee. Waste Prevention in the Dairy industry. *Milk Dealer*, 39:49-56. 1950.
6. Seidel, H. F. Characteristics of Industrial Wastes. Unpublished M.S. Thesis. University of Minnesota Library, Minneapolis, Minnesota. 1947
7. Mehlman, F. W. The Disposal of Industrial Wastes. *Sewage Works J.* 11:646-656, 1939.
8. Eldridge, E. F. Milk Products Waste Treatment. *Eng. Enp. Station Bul. 36. Michigan State University.* 1931.
9. Guruham, C. Fred, Principles of Industrial Waste Treatment. John Wiley and Sons, Inc. New York. 1955.
10. Hoover, S. R. Biochemical Oxidation of Dairy Wastes. Sewage and Ind. Wastes, 25:201-209, 1953.
11. ————, Pepinsky, J. B., Jasewiez, L. and Porges, N. Aeration as a Partial Treatment for Dairy Wastes, 6th Industrial Waste Conference Proceedings, Eng. Ext. Series No. 76, p. 313-319, Purdue University, 1951.
12. Besselievre, E. B. Industrial Waste Treatment, McGraw-Hill Book Co., Inc., New York, 1952.
13. Trebler, H. A. and Harding, H. G. Industrial Wastes—Dairy Industry, *Ind. and Eng. Chem.* 39:608-613. 1947.
14. Wilson, M. A. High-rate Filters Treat Creamery Wastes. Sewage Works Eng. 17:309-311. 1946.
15. Problems and Potentials of Industrial Wastes. Wastes Eng. 25:21-26. 1954.

Here's Why More and More Milk Haulers Are Using **Portersville** Farm Pick-Up Tanks:

"My Portersville Farm Pick-Up Tank is better made than any other tank I've seen," says H. J. Clark who hauls for Producers' Milk Co., Brockton, Mass. "All welds are ground smooth and highly polished . . . making the working parts and inside of the tank extra-easy to clean. Best of all, it's so well insulated that the milk temperature doesn't drop a degree when left in the tank overnight!"



The "Business End"

. . . designed for convenience, durability, maximum sanitation and easy-cleaning.

Portersville
Stainless Equipment Corp.
Portersville 1 (Butler County), Pa.

Mail Coupon NOW For Complete Details

Portersville Stainless Equipment Corp.
Portersville 1 (Butler County), Pa.
Please send me descriptive literature on:
☐ Farm Pick-Up Tanks ☐ Milk Trailer Tanks ☐ Storage Tanks ☐ Cold Wall Storage Tanks
Name _____
Street or R.F.D. _____
Town _____ State _____

USDA Proposes Vast New Order for New York-New Jersey Market

A SWEEPING PROPOSAL to extend the marketing order regulating metropolitan New York to include 35 New York State counties and 13 northern New Jersey counties is the product of the longest order hearing on record. Thousands of pages of testimony were taken over a period of nine months. Included in the proposed new marketing area are the large urban centers of Syracuse, Utica, Rome, Albany and Binghamton, New York plus Patterson, Passaic, Elizabeth, and Newark, New Jersey.

The secretary's recommendations have been accorded a varied reception. Up-State New York distributors, particularly those competing with Connecticut for supplies, are deeply disturbed and with justification. There is a difference that hovers around a dollar a hundred between what the New York distributors can offer producers and what Connecticut distributors can offer.

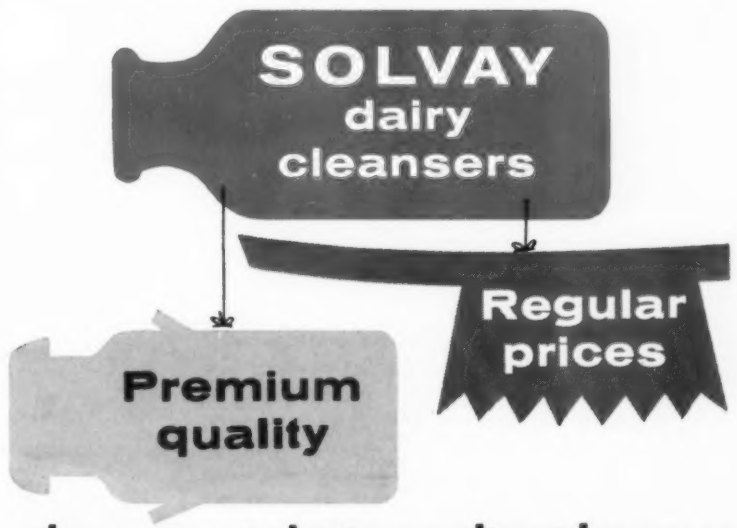
The four large producer cooperatives in New York State appear to take exception to certain parts of the proposal. The Mutual Federation of Independent Cooperatives, one of three producer groups that sought the single-order program is "vigorously opposed" to four provisions in the proposed order.

New Jersey producers are not completely satisfied but in general find the order more favorable than previous propositions made in 1952 and 1955. According to Floyd R. Hoffman, director of the New Jersey Office of Milk Industry, the proposals do not meet the original demands of New Jersey producers but are better than the earlier ones.

New Jersey distributors are encouraged by the elimination of the notorious Class 1-C provision which allowed Order 27 milk to come into New Jersey at 20 cents over the New York blend price and compete with New Jersey milk purchased at a much higher price established by the New Jersey Office of Milk Industry. However, the vast scope of the proposed order and the new conditions it brings to New Jersey are an unknown quantity and are viewed as such.

Some New York dealers who were riding high on the Class 1-C wave find their favored position eliminated under the proposal. Other New York dealers see the extension of the marketing area as an improvement.

The recommendation creates a marketing area without parallel in the United States. In physical size, in number of consumers, in complexity of marketing operations the marketing area is unique. There are those who see the proposal as a step towards an eventual regional order regulating New England, New York, New Jersey and Pennsylvania. Although the position is purely one of speculation at the present the proposal is clearly a new departure in federal marketing orders.



...the answer to better results at lower cost

● SOLVAY SUPER CLEANSER
There's no extra cost for the SOLVAY quality in this all-purpose cleanser. Features ingredients essential to outstanding performance. Cuts grease quickly, thoroughly. Stable suds. Rinses clear. Easy on the hands. Safe on all surfaces. A little goes a long way.

● SOLVAY CLEANSER 600
At moderate cost, here is superior cleaning action for equipment, glassware, utensils, floors, walls, woodwork. Works fast and easily—leaves equipment sweet. Free-flowing. Noncaking. Dustless. Works well in low concentrations.

● SOLVAY GREEN LABEL COMPOUND
For *hand* cleaning, brightening and sterilization of milk and cream cans with minimum cost and effort. Minimizes lime deposits. Combines excellent neutralizing and water conditioning action, rinsability, wetting and penetrating ability.

● SOLVAY CAN WASHING CLEANSER
Best for *machine* can washing—designed exclusively for this job. Tops for speed and thoroughness of wetting and penetration, soil dispersion, water conditioning, draining and rinsing, sterilization. 100% active. Free-flowing. Noncaking. Dustless.

Write for samples

SOLVAY PROCESS DIVISION
ALLIED CHEMICAL & DYE CORPORATION
61 Broadway, New York 6, N. Y.

Allied Chemical

BRANCH SALES OFFICES:
Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit • Houston
New Orleans • New York • Philadelphia • Pittsburgh • St. Louis • Syracuse

SOLVAY ®

American Jersey Cattle Club Launches Nationwide Sales Program

All Jersey Milk Promotion Emphasizes Solids Not Fat

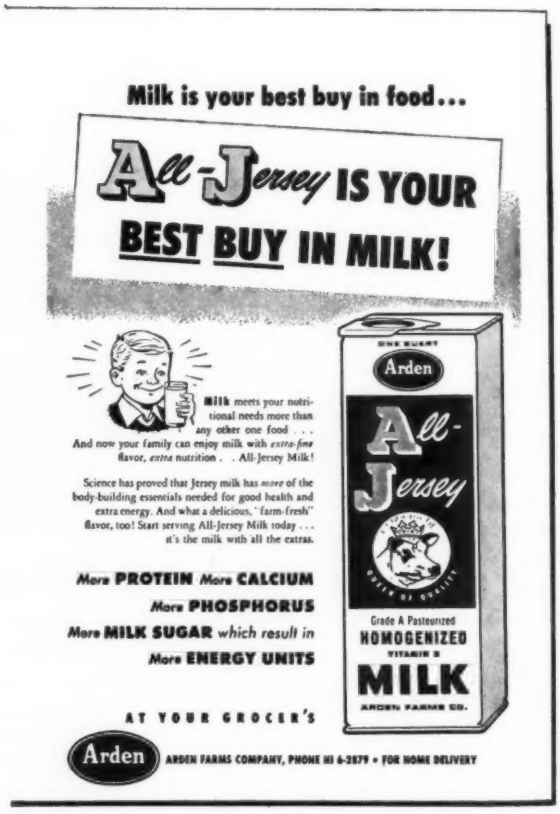
A STANDARD FAT, HIGH-solids, not-fat milk carrying the protected brand name "All Jersey" is the newest product idea in the milk business. Developed by the American Jersey Cattle Club and supported by the 48-state Jersey organizations, the program originated on the West Coast. It was taken over by the national Jersey organization in September of 1954. A period of market testing and development followed. Early this year the program was ready and is now offered to milk distributors the nation over.

The unique aspect of the program is its switch from the traditional emphasis on fat content to an emphasis on solids not fat. This is, of course, right in line, with a growing consumer awareness of the food value below the creamline. The switch is all the more spectacular because Jerseys have long been considered one of highest fat-producing breeds. Basis for the change, according to the American Jersey Cattle Club, is the fact that Jersey milk, in addition to its high fat content is also exceptionally high in solids not fat. A report from the Jersey organization says, "An extensive study was conducted by a leading Land Grant College to determine the food value of various milks. This research covered an analysis of milk samples from representative areas of the United States.

"Results of the study showed that genuine Jersey milk, standardized to 3.5% by removing cream or adding Jersey separated milk, contained up to 25% more protein, 20% more calcium, 9% more phosphorus and 7% more milk sugar than genuine unstandardized 3.5% milk."

Licenses to use the name All Jersey milk are being offered to milk distributors on a semi-exclusive basis. Coverage is the principal consideration in determining whether a distributor in a given market will have an exclusive license. If a distributor sells milk through the entire market his would presumably be the only license granted in that market. If he covered only a certain geographical area in the market a license might be granted to another distributor who sold his products in another part of the community.

The major specification concerning the use of the All Jersey name requires milk bearing the name to be completely Jersey milk. The milk may be adjusted to meet the current standards in the market. For example, if the standard in the market is 3.7% the All Jersey milk could be standardized to that fat percentage so that it could be sold competitively but if the All Jersey name is used the milk must be all Jersey. In other words the product can be tailored to fit the market but it must come from Jersey cows.


Milk is your best buy in food...
All-Jersey IS YOUR BEST BUY IN MILK!
Milk meets your nutritional needs more than any other one food . . .
And now your family can enjoy milk with extra-fine flavor, extra nutrition . . All-Jersey Milk!
Science has proved that Jersey milk has more of the body-building essentials needed for good health and extra energy. And what a delicious, "farm-fresh" flavor, too! Start serving All-Jersey Milk today . . . it's the milk with all the extras.
More PROTEIN More CALCIUM
More PHOSPHORUS
More MILK SUGAR which result in
More ENERGY UNITS
AT YOUR GROCER'S
Arden
ARDEN FARMS COMPANY, PHONE HI 6-2879 • FOR HOME DELIVERY
Arden
All-Jersey
Grade A Pasteurized
HOMOGENIZED
MILK
ARDEN FARMS CO.

This is a reproduction of one of the advertisements included in the All Jersey promotion program. The ad shown here was used by Arden Farms in California. Other material includes publicity releases, point of sale material, radio and television scripts, and billboard posters.

The name can be applied to a complete line of products so long as the milk used is Jersey milk. Chocolate milk, butter milk, high fat milk, high solids not fat milk, whatever the product, it can carry the All Jersey name under the license agreement providing the milk used is Jersey milk.

Some 60 milk distributors are using the All Jersey name. The program has been tested under diverse conditions; regulated markets, non-regulated markets, handler pools, market-wide pools and no pools at all. The

reports indicate that because of the "tailoring to fit the market" distributors have been able to sell the milk competitively in all markets tested.

Mechanics of the franchise licensing arrangement start with the national organization, The American Jersey Cattle Club grants a franchise to State breeder's association. The State association, in its turn, grants licenses to distributors in their area.

A powerful advertising and merchandising program has been developed to support the All Jersey name. The program is both national and local. The material has been prepared by a professional advertising firm and includes prepared ads for use by individual milk distributors. Newspaper mats, radio scripts, television spots, billboards, publicity releases, point of sale and direct mail pieces are available.

Joint Financing

The promotion is financed jointly, under franchise agreements by the distributor and the local Jersey association. Although the arrangements vary slightly according to locality, the general provision is for producers and distributors to share equally in the cost of the advertising. The common figure is five cents a hundred from producers and five cents a hundred from distributors. In California the figure is ten cents and ten cents. A portion of the contributions are paid to the national Jersey organization to cover administrative and development costs of the program. The bulk of the money remains in the local market to promote All Jersey milk where it will do the most good.

The financial participation of Jersey breeders in this promotional campaign is an expression of the philosophy which holds that producers have a responsibility for developing markets for their milk. A second, possibly equally significant element in the program, concerns providing a milk distributor using the All Jersey name with an adequate supply of Jersey milk. This is handled through the local Jersey breeders association. This action tends to strengthen the exclusive factor in the license to distribute All Jersey milk. It gives the All Jersey distributor first call on the Jersey milk available in his area. Between the promotional program creating a demand and the supply program controlling procurement the Jersey people have designed an operation that places a distributor in a rather attractive competitive position.

Success of Breed Name Milk

The practicality of a breed name milk has been successfully demonstrated by the Guernsey breeders with the familiar Golden Guernsey label. The All Jersey program takes the breed name idea used so effectively by the Guernsey people, combines it with the idea of producer participation in market development used by the American Dairy Association, and adds three new elements of its own: producer control of the supply, finished product tailored to the market in order to get volume sales, and an exploitation of the nutritional values in solids not fat. This is a lot of creating.

The key ingredient in this program is the achievement of a personalized product. Tom Burkhard, sales manager at Mitchell Dairy in Bridgeport, Connecticut, describes product personality as one of the principal sales problems in milk distribution. For all practical purposes the milk of one distributor is so similar to the milk of another competitor that little, if any, sales capital can be made on the basis of product superiority. Thas is a major reason why the industry competes so extensively on price and service. The All Jersey program gives the distributor a product that is priced competitively but that, in addition, has a built-in sales appeal of its own. Because it does emphasize the product rather than the price, although it recognizes the importance of price, this All Jersey program has the potential to exercise a powerful and healthy influence on the milk business.

COMING EVENTS

Association of Commerce and Industry—Chicagoland Fair to be held June 28 to July 14 at Navy Pier, Chicago

Self-Service Equipment Show—Will be held June 30 to July 3 at the New York Coliseum, New York

National Dairy Council—Annual Meeting to be held July 1 to 3 at the Edgewater Beach Hotel, Chicago

Dairy Fieldman's Conference—Annual Meeting to be held July 10 to 11 at Pennsylvania State University, State College

Indiana Dairy Products Association—Meeting to be held July 11 at Anderson Country Club, Anderson

PAMD Board of Directors—Quarterly Meeting to be held July 16 to 17 at Shawnee Inn, Shawnee-on-the-Delaware, Pennsylvania

North Carolina Dairy Products Association — Annual Spring Outing to be held July 17 to 19 at Mayview Manor, Blowing Rock, North Carolina

International Food Show—Exposition to be held August 3 to 7 at Municipal Auditorium, Atlanta, Georgia

Evaporated Milk Association—Meeting to be held September 12 at the Sheraton-Blackstone Hotel, Chicago

American Oil Chemists' Society—Meeting to be held September 30 to October 2, Cincinnati

Fluid Controls Institute—Meeting to be held October 6 to 8 at the Westchester Country Club, Rye, New York

American Gas Association—Annual Convention to be held October 7 to 9 at Kiel Auditorium, St. Louis, Missouri

International Association of Milk and Food Sanitarians—44th Annual Meeting to be held in October at the Brown Hotel, Louisville, Kentucky

Vermont Dairy Plant Operators' and Managers' Association—Annual Meeting to be held October 9 to 10 in the Dairy Building, Burlington

International Dairy Show—To be held October 9 to 15 at the International Amphitheatre, Chicago

Conveyor Equipment Manufacturers Association — Meeting to be held October 12 to 15 at the Grand Hotel, Point Clear, Alabama

Industrial Sanitation Management Association — Conference to be held October 14 to 16 at Navy Pier, Chicago

Milk Industry Foundation—Convention to be held October 21 to 23, San Francisco

National Safety Council—Meeting to be held October 21 to 25, Chicago

National Metal Association —Meeting to be held October 21 to 25, Chicago

International Association of Ice Cream Manufacturers—Convention to be held October 24 to 25, San Francisco

National Industrial Packaging & Handling Exposition —To be held October 28 to 31 at the Convention Hall, Atlantic City

PLAN AHEAD

Meet Tomorrow's needs Today with UNITED CASES

The United Dairy Case above will carry half gallon, quart, pint, or half pint paper cartons. Regardless of the change in daily demand, one size case is all that is needed.

More important, this case is designed for automatic mechanical handling on fillers and stackers and will not be obsolete if new equipment of this type is installed in your dairy.

There are other advantages too, such as faster cooling, better sanitation, longer life and lower case cost.

Plan ahead with United, originators of the welded wire dairy case and leading suppliers for over a quarter of a century. A United man can give you sound money saving advice on all case requirements.

UNITED STEEL AND WIRE CO.

137 FONDA AVENUE BATTLE CREEK, MICH.

Branch Plant: Wilkes-Barre, Pa.

INDUSTRY MUST RECRUIT YOUNG TALENT, DECLARES MIF OFFICIAL

Thomas W. Douglas of the Milk Industry Foundation advanced a three-point program to help the milk industry recruit its share of potential top management personnel from the nation's colleges in an address before the New Jersey Milk Industry Association.

Mr. Douglas, educational director for the MIF, called for:

1. A positive and constructive program for the recruitment of outstanding young men at the high school level.

2. Improvement of the outmoded college curricula for dairy manufacturing courses, which, he said, are top-heavy in technical subjects and do not give sufficient stress to business administration, the humanities, and cultural courses.

3. Development of indoctrination programs within the industry so that incoming college graduates are properly trained and developed for future industry leadership.

Once a dairy science major is enrolled, the colleges must realize that "the goal is not to educate mere technicians but, rather, to develop potential leaders as well," Mr. Douglas declared.

●

PRICING DOMINATES DISCUSSION AT MANAGEMENT FORUM

Harold Sewell, General Manager of Chestnut Ridge Dairy in Akron, Ohio, stole the show at the first annual Management Forum held at the University of Massachusetts April 30 and May 1. Speaking on the "Management of Distribution" to a group that was rocking from the effects of a gallon jug haymaker, Mr. Sewell reported on his experience in the turbulent Akron market. He emphasized the fact that it was a price problem rather than a container problem that confronted his listeners.

The contracting margins that the price competition brought with it placed a premium on efficient and imaginative management, Mr. Sewell said. He pointed out that the difference between the possible and the impossible is largely a state of mind. He cited a sudden change from a six-day work week to a five-day week as an example.

The forum was sponsored by the College of Agriculture at the University. John H. Bragg, forum director and Extension Service dairy specialist, discussed "What Is Dairy Plant Management?" Wilmer D. Barrett, Barrett and Turner Corporation gave a thoughtful presentation of plant layout and practical engineering problems. Lawrence C. Hamack, a member of the Business Administration staff at the University explored the "Management of Personnel." Thomas Burkhard, Sales Manager at Borden's Mitchell Dairy in Bridgeport, Connecticut, analyzed sales problems. Mr. Burkhard pointed out the need for developing product individuality. He described the importance of the route salesman in the sales picture and urged that milk distributors recognize advertising and merchandising as elements designed to support the salesman. M. J. Kluger, a certified public accountant and member of the accounting firm of Kap-

A panel discussion of questions provoked by the formal discussions topped off the Management Forum. The wide experience of panel members coupled with their willingness to grapple with touchy subjects made the discussion lively and valuable.

leau, Kluger & Co. of Philadelphia, lectured on "Management Use of Budgets."

The forum was something of a new venture in dairy industry meetings. It touched upon a crucial area of the milk business with a welcome degree of realism.

●

E. F. DREW & CO. CELEBRATES 50th ANNIVERSARY

E. F. Drew & Company is celebrating its 50th birthday this year.

It was established in 1907 in a small, two-story building in East Boston, Massachusetts. In those early days the company imported coconut, palm and other vegetable oils. Manufacturing and sale of oil specialties to New England textile mills and other industries began in 1908.

By 1913, having become one of the largest importers of coconut oil only six years after its founding, the company opened a branch office in New York. Following a general expansion of business between 1913 and 1917, E. F. Drew & Company initiated the construction of an edible oil refinery in Boonton, New Jersey. The capacity of the Boonton plant has been enlarged gradually to the point today where it ranks first in tonnage of edible coconut oils and distilled coconut oil fatty acids in the United States.

Between 1927 and 1937 the company's expansion led to the formation of three associate corporations, Wecoline Products, Inc., Napthole, Inc., and the American Colloid Corporation. During this period the company entered the general oil and chemical field through the conversion of its by-products.

Gaining impetus from the nation's needs during the war and a booming population since the war, expansion and diversification of E. F. Drew's products have accelerated rapidly during the past 20 years.

The dairy division managed by William Fenner was started in 1946 and produces special detergents, conveyor lubricants, vitamins, ice cream stabilizers and ice cream emulsifiers. While it concentrates on direct sales mostly to dairies, this division also sells to soft drink and brewery bottling plants. It began with one salesman in 1946. Today 22 salesmen cover the country. The original product was vitamins for milk fortification. Today the list includes 40 different products.

THE ONLY *Approved* SANITARY METHOD OF APPLYING A U.S.P. LUBRICANT TO DAIRY & FOOD PROCESSING EQUIPMENT

Haynes Spray

U. S. P. LIQUID PETROLATUM SPRAY
U.S.P. UNITED STATES PHARMACEUTICAL STANDARDS

SANITARY—PURE
ODORLESS—TASTELESS
NON-TOXIC

CONTAINS NO ANIMAL OR VEGETABLE FATS. ABSOLUTELY NEUTRAL. WILL NOT TURN RANCID—CONTAMINATE OR TAINT WHEN IN CONTACT WITH FOOD PRODUCTS.

This Fine Mist-like HAYNES-SPRAY *should be used to lubricate:*
SANITARY VALVES
HOMOGENIZER PISTONS — RINGS
SANITARY SEALS & PARTS
CAPPER SLIDES & PARTS
POSITIVE PUMP PARTS
GLASS & PAPER FILLING MACHINE PARTS
and for ALL OTHER SANITARY MACHINE PARTS which are cleaned daily

THE MODERN HAYNES-SPRAY METHOD OF LUBRICATION CONFORMS WITH THE MILK ORDINANCE AND CODE RECOMMENDED BY THE U. S. PUBLIC HEALTH SERVICE • • • •

THE HAYNES-SPRAY THIN FILM LUBRICANT HAS HUNDREDS OF APPLICATIONS IN HOME & INDUSTRY
PACKED 6-12 oz. CANS PER CARTON
SHIPPING WEIGHT—7 LBS.

The Haynes-Spray eliminates the danger of contamination which is possible by old fashioned lubricating methods. Spreading lubricants by the use of the finger method may entirely destroy previous bactericidal treatment of equipment

THE HAYNES MANUFACTURING CO.
709 Woodland Avenue • Cleveland 15, Ohio

ROLL-EASY DOLLIES • ROLL-EASY CASTERS • TABLE CARTS • CAN CARTS • CARRY-BASKETS
SNAP-TITE NEOPRENE GASKETS • NEOPRENE COVERED WRENCHES • "SLIP" CHAIN LUBRICANT

tastier
buttermilk

Want to add to the sales appeal of your buttermilk?

Make it tastier. Use nonfat dry milk solely, or standardize at 11% serum solids.

Try it. See how it brings out more of the natural flavor of buttermilk.

Nonfat dry milk is dependable. Always uniform in quality. Easy to use. Needs no refrigeration.

nonfat dry milk

Get the facts. Write: Dept. A6

AMERICAN DRY MILK INSTITUTE, INC.
221 North LaSalle Street • Chicago 1, Illinois

FREE!

SERVICE CAP

Paperlynen Caps are ADJUSTABLE to any headsize. Insure perfect fit. Light and comfortable. More ECONOMICAL. Reduce your present Cap expense by 50%. Distinctive with your special imprint. Millions used annually by nationally known companies. Just mail coupon below with manager's signature and we will send you absolutely FREE, a Patented Adjustable Paperlynen Service Cap.

PAPERLYNEN COMPANY
555 West Goodale St., Dept. E-6, Columbus, Ohio.

Please send absolutely FREE, a Patented Adjustable Paperlynen Cap.

Firm Name_____

Address_____

City_____ State_____

Signature of Manager_____

Name of Paper Jobber most frequently patronized:

_____

BUHL Quality-
Made Better! Lasts Longer!

PENN-MICHIGAN MFG. CORP.
WEST LAFAYETTE, OHIO

UJA HONORS NEW YORK DEALER

One hundred twenty leaders in the dairy and allied industries honored Samuel Goldberg of the Trinity Dairy Company at a testimonial dinner and contributed more than 80,000 dollars to the 1957 rescue and relief campaign of the United Jewish Appeal in New York last month. General chairman of UJA's Dairy and Allied Industries Division, Abraham Alper, of the Lily Lake Cheese Company, urged continued effort for the campaign.

The "roll of honor" was called by Daniel Liberman, Maplewood Farms, giving each guest the opportunity to make known his 1957 contribution to the regular UJA drive and the special hundred million dollar emergency fund.

●

SEES POSSIBILITY OF MILK'S BECOMING A PUBLIC UTILITY

Following are some prognostications by Walter D. Tiedeman, resident lecturer, School of Public Health, University of Michigan, on the "Future of the Sanitary Control of Milk and Milk Products." The speech was presented at the Tenth Annual Meeting of the Dairy Products Improvement Institute:

Dairy farm inspection work will be done more and more by the milk industry which will furnish qualified field service men whose efforts will be subject to approval by supervising inspectors on the city payroll. Reason for this is that it becomes increasingly more difficult to get budget appropriations necessary to support numerous dairy farm inspectors required to cover metropolitan milk supplies.

In metropolitan areas, like Boston, for instance, efforts to adhere to the old principle of the inspection of dairy farms by the health officials of the community in which the milk is consumed leads to multiplicity of responsibility for inspection, duplicaton of work, and impossible situations as to travel requirements and costs.

Increased emphasis on dairy farm inspection is reflected slightly in the quality of the milk. The next 50 years will bring less and less official dairy farm inspection with the shifting of this burden to industry.

Overlapping of metropolitan milk sheds will lead increasingly to consideration of milk as a public utility.

Continued reliance must be placed on pasteurization to make milk and milk products safe.

Dating of milk will become outmoded and unnecessary.

Home deliveries at a rate of less than three times a week will have a tendency to cause customers to abandon this form of milk delivery in favor of store purchases.

Methods of sampling will be introduced in the next half century that will be more representative than the taking of a random quart from supplies totaling thousands of quarts daily.

Some of the news media have taken "pot shots" at milk by reporting that some investigators feel that milk may play a role in stimulating cancer, that excessive milk fat may cause heart disease, and that the radioisotope strontium 90 in milk may accumulate in the bone marrow. Of course, the milk industry is faced with the need for sponsoring research designed to separate fact and fiction.

Under the lash of budget control there will be an increasing tendency for health officials to saddle the milk industry with as much as possible of the responsibility for maintaining the safety as well as the quality of public milk supplies. More and more the public will look to the dealer for a warranty as to the quality and safety not only of milk products but of market milk as well. However, some well directed official control of milk sanitations always will be necessary and no doubt will be available during the next 50 years or more notwithstanding efforts to direct official activity elsewhere.

●

DAIRY PARTICIPATES IN HUGE CIVIL DEFENSE EXERCISE

Roberts Dairy of Omaha, Nebraska, participated in the largest Civil Defense demonstration of its type ever staged in the United States at Union College, near Lincoln, Nebraska.

One thousand six hundred persons participated in the three-hour program, which included a mock atom bomb attack, realistic "victims," emergency treatment and mass feeding.

Civil Defense workers pour "uncontaminated" water from C. D. emergency Pure-Pak cartons for feeding purposes. The water was rushed to the mock atom bomb attack scene by Roberts Dairy.

Pure drinking water was supplied by Roberts Dairy. The water was packaged in C. D. emergency Pure-Pak cartons outside the atom bomb "contaminated" area and rushed to the disaster scene. The water was used for drinking, cooking and medical purposes.

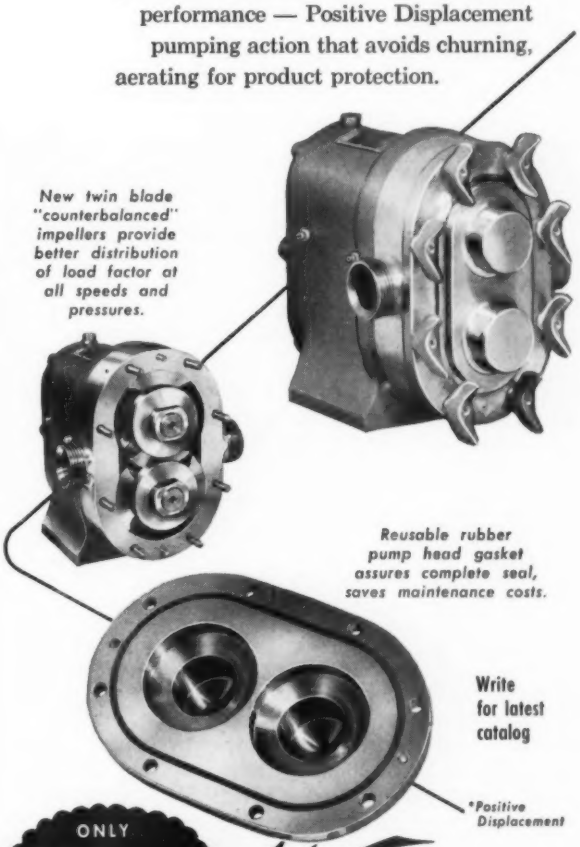
The exercise pointed up the basic soundness of the Cooperating Dairy for Civil Defense program now being implemented by dairies and local Civil Defense authorities across the nation.

WAUKESHA P. D.*
Sanitary Pumps designed for faster cleaning longer service life

Greater time savings in dismantling, cleaning, sterilizing, assembly; longer operational life; remarkably low maintenance costs — these are advantages that every dairy plant appreciates in the new Waukesha Positive Displacement Sanitary Pump.

New engineering brings the load on the impeller end of the shaft close to the ball bearings — to lessen wear in impellers, body and cover . . . larger, stronger shafts, huskier splines, leakproof O-Rings, new stainless steel reversible shaft sleeves, re-usable pump head rubber gasket — all are exclusive features that make Waukesha your most profitable investment in pump performance — Positive Displacement pumping action that avoids churning, aerating for product protection.

New twin blade "counterbalanced" impellers provide better distribution of load factor at all speeds and pressures.



Reusable rubber pump head gasket assures complete seal, saves maintenance costs.

Write for latest catalog

**Positive Displacement*

ONLY Waukesha gives you a quarter century's experience and reliability

Waukesha FOUNDRY COMPANY
DEPT. D6, WAUKESHA, WISCONSIN

OUTLOOK OPTIMISTIC

NDC Explores Methods of Meeting Heart Disease Problems

A COUPLE OF REFRESHINGLY constructive articles, one in *Newsweek* and one in a New York newspaper, were an encouraging climax to a meeting of public relations men and trade press editors held in Chicago on May 9 at the request of the National Dairy Council. The meeting was a second step in the Council's efforts to develop a workable program to cope with the current dangerous tendency to link animal fats with atherosclerosis and heart disease.

Although the two articles in the press were a matter of coincidence as far as the meeting was concerned they exemplified the rather optimistic nature of the meeting.

At the request of the National Dairy Council the meeting prepared recommendations for a course of action. Two areas were considered; one dealing with work within the dairy industry, the other with activities related to the general public. Chairman of the meeting was Will Foster, Borden Cheese Company. Presiding at the Consumer Group meeting was Robert North, International Association of Ice Cream Manufacturers. Norman Myrick, editor of the *American Milk Review*, was Chairman of the Industry Group.

The meeting was held against a background of intensified debate in the public press which NDC's Board of Directors has described as presenting an "obstacle to increased consumption of dairy foods." Lloyd H. Geil, the Council's Director of Public Relations, gave dramatic support to this position with an exhibit of clippings from newspapers collected over a three-week period. An enumeration and projection of the clippings showed that articles on the fat-heart disease axis had appeared in several hundred papers during the interval.

A review of the problem as seen by scientific investigators disclosed that little is actually known about fats and heart disease. Of conjecture and hypothesis there is a copious flow; of irrefutable, uncontroversial, solid, sound evidence there is precious little. According to Dr. G. P. Whitlock of the National Dairy Council, who reviewed a meeting medical people and nutritionists held by NDC in April, the thinking tends more and more to the idea that coronary artery disease is the result of several factors such as heredity, sex, vitamins, minerals, hyptertension, obesity and a six-bit condition called hypercholestremia.

Dr. Whitlock's review convinced most of the PR people and newsmen present that nobody really knew the score, that those who were belaboring animal fat were swinging at the wrong pitch. The important problem, as far as public attitudes are concerned, it was concluded, is to direct the debate away from an unjustified preoccupation with animal fats and into the area of general causes where it belongs. Practical recommendations were made by each of the two groups.

Attending the public relations meeting called by the National Dairy Council to consider ways and means of handling the heart disease problem were men from insurance companies, medical organizations, trade associations and the trade press as well as representatives from the dairy industry.

The Industry Group felt that information, written in laymen's language, was the first need of the dairy industry. Producers, manufacturers, and distributors of dairy products must be equipped with a clear understanding of the problem and the known facts concerning heart disease. To achieve this goal a three-point program was recommended.

1. The National Dairy Council publish and make available to the dairy industry a basic text which can be used as a reference. This text would present in understandable language the known facts relating to the heart disease problem.
2. The National Dairy Council publish a supplementary letter designed to keep the industry up to date on new information as it is developed by research workers.
3. The National Dairy Council create and sponsor a series of clinics for industry people designed to increase their understanding of the fat-atherosclerosis-heart disease triangle. It was suggested the clinics be provided with adequate teaching materials such as film strips, pamphlets, charts, etc. It was further suggested that the local dairy councils be used as starting points for the clinics.

In addition to these recommendations continuing consumer studies to determine the trend of thought among the buying public was proposed. Some work is

already being done along these lines. The recommendation urged the continuation and possibility the expansion of this activity according to the need.

The Consumer Group, under the direction of Robert North, wrestled with the delicate problem of getting the facts in the hands of people working with the mass distribution of information while avoiding a verbal blood bath in the public press. The group recommended that no general publicity be considered. Instead it called for a short definitive statement of the industry's position which would give the industry a common base in talking with editors. It was recommended, after considerable thoughtful debate, that basic background information on heart disease and atherosclerosis be prepared and placed in the hands of editors. This was not to be propaganda but an authoritative summary of what is known that would serve editors as a guide in evaluating material that crossed their desks.

One of the trouble spots in the unfortunate publicity that has attended the public debate on heart disease has been the reports of papers given at scientific meetings. The Consumer group suggested that NDC keep close watch of meetings where the subject is to be considered and be ready to make available to reporters covering such meetings the industry's position and the known facts.

The concensus of those attending the meeting was one of sober approval. The job to be done was recognized. The delicate nature of the problem was carefully evaluated. There was, however, an unmistakable current of optimism.

●

NOW HEAR THIS!

(Continued from Page 18)

Dear Norm:

I have just read your inquirer's letter from North Dakota regarding large-size pen stabling. The only large-size operation that I know of, but one that I think will be worth your correspondent's looking at, is Brook Hill Farms at Genessee Depot, Wisconsin.

I have seen and been on farms with pen stabling in the vicinity of Calgary, Alberta, Saskatoon, Sackatchewan, and Winnipeg, Manitoba. None of these were as large as the one mentioned, but the lesson I learned from seeing them was that pen stabling can be made practical for any climate where cattle feed can be raised; however, I am not sure that in such climates that it is desirable to have super-sized stables. The secret in cold weather, where pen stabling is concerned, is still air over a manure pack; and I am not sure that it will be possible to prevent air currents in a very large open barn. In Canada, they have found it desirable to build a six-foot fence around the lot in front of the open side of the barn. This is to keep eddies from the winds from blowing snow into the barn.

It is very possible that your correspondent is going to have a series of milking parlors for his three to four hundred cows. If he does this, I think he should have them far enough apart so that the cows can be separated into separate stables for each milking parlor used.

Ernest B. Kellogg
Milk Industry Foundation

Lo-Bax

The pure, sweet milk that's a treat for young and old is *protected* milk. Protected, from cow to consumer, by Lo-Bax—the safe, reliable chlorine product that sanitizes milkers' hands, cows' teats, milking machine parts, utensils and other dairy plant equipment.

A little Lo-Bax gives a lot of chlorine rinse solution for gentle, effective bactericidal treatment . . . and for convenience, each bottle of Lo-Bax contains a handy measuring spoon that assures solutions of proper concentration.

Free-flowing, easy-to-store and easy-to-use, Lo-Bax has built a solid reputation on results in dairy plants. Pass the word along to your suppliers, too. Or better still, supply them with the free samples and informative literature that we will gladly send you. Just write.

available in two forms

Lo-Bax Special
LoBax-W (with wetting agent)

Lo-Bax® is a trademark 4850

LO-BAX

OLIN MATHIESON CHEMICAL CORPORATION
INDUSTRIAL CHEMICALS DIVISION • BALTIMORE 3, MD.

AT LAST!

a continuous truck refrigeration system

SPECIFICALLY DESIGNED for RETAIL MILK DELIVERY

the NEW KOLD-TRUX® LANCE

Completely new and specifically designed for retail milk delivery. The new Kold-Trux LANCE answers a long-felt need for a continuous refrigeration system that really works on today's retail milk trucks.

NO PAYLOAD SPACE used

The Lance takes no usable payload space, is conveniently mounted where it will not interfere with the delivery of milk. Lightweight and compact, it solves your space problems.

TROUBLE FREE operation

The Kold-Trux Lance has the same mechanical drive that has proven so trouble free on the Kold-Trux Mark system. Field tests, too, have demonstrated its unusual dependability and low-cost operation.

TRANTER MFG. INC. 25 YEARS KOLD-HOLD

KOLD-HOLD® division Tranter Mfg., inc.

210 E. Hazel St., LANSING 9, MICHIGAN

SUMMER CAMPS, DAY CAMPS ELIGIBLE TO PARTICIPATE IN SPECIAL MILK PROGRAM

Various milk dealer organizations and other agencies are reminding dealers of the new business opportunities afforded through this expansion of the federal special milk program. In its letter to members the Indiana Dairy Products Association says, "It has been confirmed by Mr. William Price, assistant director, State School Lunch Division, that Vacation Bible Schools qualify for the special milk program," and that practically all summer camps will also qualify for the program.

The letter also tells where and how to apply for information and application forms.

A special bulletin from the Pennsylvania Association of Milk Dealers to its members goes into detail in describing the Special Milk Program as applied to summer camps and recreational programs. Robert Jacobson, University of Illinois dairy marketing specialist, has sent out a general release explaining the program and outlining some of the ways to take part in the program, such as "milk breaks," with snacks, substituting fluid whole milk for reconstituted nonfat dry milk in beverages and cooking and provide fluid whole milk for groups that did not serve milk before.

The special milk program has been extended to include non-profit groups such as girls and boys clubs, scout camps, child guidance centers, 4-H camps, day camps. youth groups and summer camps sponsored by churches and civic organizations and municipal recreational programs.

These organizations can get up to three cents of federal-state funds for each extra half-pint of milk consumed by children, not including that usually drunk at meals.

●

R. R. McNAMARA NAMED PRESIDENT OF SEALRIGHT

R. REID McNAMARA

Frank C. Ash, Chairman of the Board of Directors of the Oswego Falls Corporation, has announced the election of R. Reid McNamara to the presidency of the Sealright Co., Inc. The election of Mr. McNamara, who has been Vice-President in Charge of Sales since 1954, to the new post was made at the annual meeting of the Board of Directors of the Oswego Falls Corporation.

It was also announced that the name of the corporation, of which Sealright is a wholly-owned subsidiary, was changed to Sealright-Oswego Falls Corporation. Mr. Ash was elected chairman of the board and H. C.

Estabrook was elected President of the Sealright-Oswego Falls Corporation.

Mr. McNamara, new President of Sealright Co., Inc., was also elected Vice-President of the Sealright-Oswego Falls Corporation in charge of sales. He also serves as director of Sealright Co., Inc., Sealright Pacific Ltd. and Canadian Sealright Co., Ltd.

Starting with Sealright as a salesman in North Carolina in 1939, Mr. McNamara was loaned by Sealright to the War Production Board, food container division, during World War II. Prior to that he was associated with the dairy industry in various marketing capacities and activities throughout the state of Georgia. After his service with the WPB he was appointed as Chicago district sales manager and came to Sealright's home office in Fulton as sales manager in 1949.

●

MICHIGAN DAIRY MEMORIAL AND SCHOLARSHIP FOUNDATION FORMED

The newly-formed Michigan Dairy Memorial and Scholarship Foundation was formally dedicated at Michigan State University campus, April 4. Dairy industry leaders who established scholarships for youth planning to study some phase of dairying and to honor dairy leaders, living and dead, through scholarships in their names, comprise the membership.

At the dedication ceremonies, Clark Brody, chairman of Michigan's State Board of Agriculture, accepted the scholarship grants for Michigan State University amounting to more than $30,000 from foundation president Harold Otzman of Detroit's Foremost Dairies.

As the group met, a bronze wall plaque was unveiled showing names of a dozen dairy leaders in Michigan – first to have scholarships founded in their names. These people, or their widows, accepted miniature plaques at the dedication.

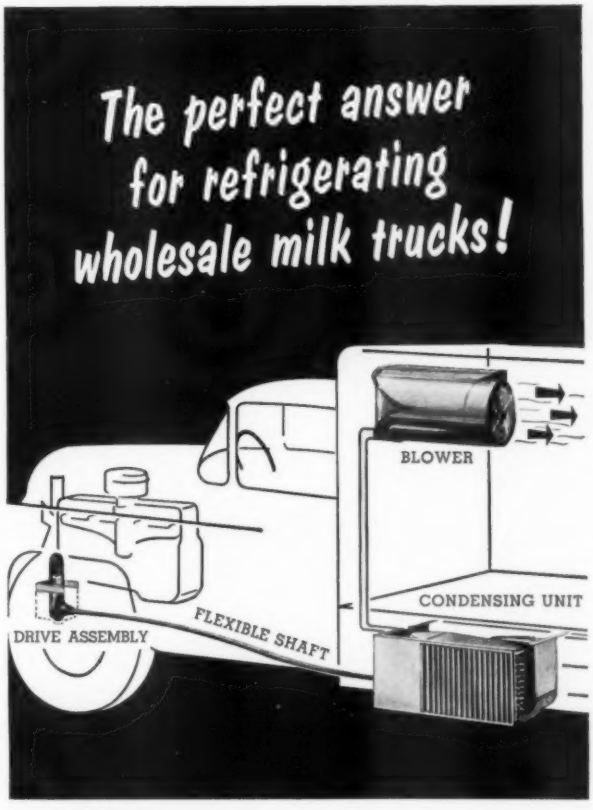
Men in Michigan dairy industry who were thus honored include: B. F. Beach of Adrian; G. S. Coffman of Coldwater; T. H. Broughton of Detroit; Peter Joppe of Grand Rapids; G. Dewey McDonald of Lansing; W. A. McDonald of Flint; J. G. Hays of East Lansing; Samuel Angott of Detroit. Deceased honorees include: A. C. Baltzer of East Lansing; John J. McDonald of Lansing; James Neal Lamoreaux of Grand Rapids; and Clarence Brody of Lansing.

Nine students who have received foundation scholarships are: David Boyne of Marlette; Herbert Miller of Williamston; Richard T. Ruff of Port Huron; Gordon G. Smith of Westfield, New Jersey; Charles V. Green of Elsie; William Diamond of Mason; Howard Leedy of Knox, Indiana; Gerald Thorp of Caro, and Ormon Pailthorp of Petoskey.

Dedication ceremonies were held in M.S.U.'s new Anthony Hall, the animal industries building recently opened at a $4 million cost.

Officers of the foundation are: Otzman, president; Robert Locke of Kalamazoo, vice-president; and Robert Lyons of Lansing and D. L. Murray of East Lansing, secretary-treasurer.

KOLD-TRUX® MARK
(Covered by Patents and Patents Pending)
SERIES



FAST recovery
Pulldown is so fast with the Turbo-Jet blower evaporator that product temperatures are virtually unaffected by door openings. Recording charts in trucks in operation show recovery is unbelievably fast.

BETTER protection on any haul
Providing a balanced system of truck refrigeration, the Kold-Trux Mark cannot over-refrigerate on long runs with few door openings yet has the capacity to safeguard products on short runs with many door openings.

LIGHTWEIGHT – only 410 pounds
The entire system, including drive assembly, condensing unit and blower evaporator, weighs only 410 pounds, including 1 h.p. standby motor.

provides EXTRA storage capacity
Because of its fast pulldown, this unit can take freshly bottled milk and prevent overloading of the plant cooling room.

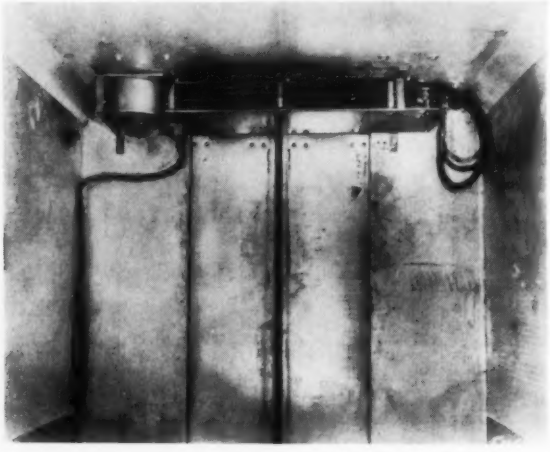
Analyzing your needs
Weigh your needs carefully. Then tailor your truck refrigeration to those needs. You can be sure of truck refrigeration suited to your particular needs when you make Kold-Hold headquarters for truck refrigeration.

TRANTER MFG., INC. 25 YEARS KOLD-HOLD DAYTON

KOLD-HOLD® division Tranter Mfg., inc.
210 E. Hazel St., LANSING 4, MICHIGAN

supply and equipment *News*

Compact Refrigerating Unit Developed for Retail Truck



The only part of the system mounted in the storage compartment is the 25-pound blower-evaporator. Specifically designed for use in retail milk trucks, the blower is mounted near the truck ceiling.

Installed in driver compartment, condensing unit is out of the way of payload space in truck. In this position it also helps assure a low center of gravity to reduce danger of tipping.

A RETAIL TRUCK refrigeration unit that does not displace a single bottle or container has been developed by the Kold-Hold Division, Tranter Manufacturing, Inc. The payload remains exactly the same as before the equipment is installed. This is accomplished by installing only the blower-evaporator in the body, itself, at the forward end near the roof. This component weighs 25 pounds.

This, plus two other components – the drive assembly and condenser assembly – comprise the whole unit with a total weight of 305 pounds complete. The drive assembly and the condenser assembly are located at or near the chassis level to maintain a low center of gravity and to permit installation without changing the body design.

Called the Lance System, the unit is said to provide a maximum of cooling in a minimum of space. The new Ribbon Blower has been designed specifically for retail truck service. It measures 5⅝ x 59⅜ x 9¼ inches. Use of an integrally mounted fan results in cold air being thrown over the load to envelop it in a blanket of protection.

Power is transmitted through an engine-crankcase pulley flexible drive shaft and an electric clutch. The truck engine provides power to drive the compressor in over-the-road operation. The entire unit can be shut off with a manual switch. A ¾ hp, 110-220 volt single-phase motor provides standby power.

Installed in the driver compartment, the condensing unit is connected to the blower-evaporator through copper tubing. The manufacturer maintains that simplicity of design of the condensing unit provides top economy of operation. Though light and small, the condenser provides great air movement and dissipation of heat. Overall dimensions 13½ x 28½ x 25 inches.

Summary of advantages claimed for the Lance System:

Rapid recovery after door openings; dry, safe milk storage overnight, permitting pre-loading at any time; no battery drain, quiet, 24-hour operation; low center of gravity for increased safety while in motion; and use of large payloads.

Jobbers See Good Future for Independent Milk Distributors

Small business employs about 50 percent of the people working in the United States and pays approximately 45 percent of all the taxes, the Director of the Office of Economic Advisor to the Small Business Administration told the annual meeting of the Dairy Supplier's Foundation in Washington, D. C. The general health of small business, as indicated by the statistics, offered the prospect of a good future for milk distributors, most of whom are classed as "small business."

E. J. WILLETT

The tone of the meeting emphasized the independent jobbers concern with the small business type of enterprise characteristic of their customers. The local service offered by the jobber, it was suggested, is analogous to the service offered by the milk distributor which is essentially local in nature.

Clear evidence of the jobbers' intention to continue and improve the local service concept was implicit in the Foundation's consideration of final plans for the third Annual Salesman's Institute held at the University of Wisconsin. The Institute is designed to bring salesmen representing jobbers up to date on the latest technical developments in dairy machinery and supplies. The Institute was held on May 13.

Foundation officers elected at the annual meeting were:

Mr. Joseph L. Rosen, Illinois Creamery Supply Company, Chicago, was elected Chairman of the Board, Mr. E. J. Willett, Dietrich Supply Co., Syracuse, New York, was elected President for a second term and Mr. P. B. Arnold, Ohio Creamery Supply Co., Cleveland, Ohio Vice-President for a second successive year.

Messrs. Don W. Fiete, Dico Co., Des Moines, T. Jacobsen, Pfaudler Sales Co., San Francisco; J. L. Rosen, and E. J. Willett were elected Regional Directors and Messrs. P. B. Arnold, Paul Heerema, Heerema Company, Paterson, N. J.; C. E. Laughlin, Western Dairy Equipment Co., Portland, Oregon and Hase Smith, M. G. Newell Co., Greensboro, N. C. were elected Directors-at-Large. Mr. Roland H. Hickman was reappointed Executive Vice-President.

A National Meeting was scheduled for the week of October 20-25, 1957 in San Francisco.

The "KING ZEERO" Builds and STORES Cooling

PATENTED

during off-peak hours

Stored Ice and Direct Expansion furnish 32°-34° circulating water for all product cooling needs.

COMPLETELY AUTOMATIC IN OPERATION

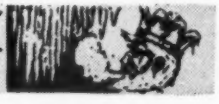
May also be used with an AIR CONDITIONING UNIT

The Proved Standard for Product and Air Cooling

- The "King Zeero" delivers the COLDEST water LONGER, for less outlay. -- affords maximum economy in operation and maintenance. Smaller compressor needed lowers demand charge.

The sales representatives of the leading lines of dairy and refrigeration equipment who call on you will be glad to discuss details with you.

THE KING ZEERO COMPANY
4300-14 W. Montrose Ave. - Chicago 41, Ill.
Manufacturers of Ice Builders - Ice Builder Cabinets - Ice Banks



Product News

Pallet Rollers Have Full Lubrication to All Bearings

NOW AVAILABLE are Ace Pallet Rollers with full pressure lubrication to all bearings. Pressure lubrication to the bearings is accomplished through a grease fitting at the end of each axle, which is drilled only to the ball bearing itself, as shown in the photograph. The large load bearing area of the cold rolled hexagon axle is solid.

The company claims this affords great protection to the precision-made, heavy duty ball bearings against dust, dirt and any and all abrasives.

For information: Frank L. Robinson Company, Latham Square Building, Oakland 12, California.

●

Grocer Controls Cabinet Temperatures

A MECHANISM enabling users to select temperatures from minus-five degrees to 44 degrees in the Sherer-Gillett

Company's line of eight-foot refrigerated food display cases.

Called "Flexicold," the device is delivered with all cases so ordered, already installed. The cases contain accessible hermetic refrigeration units. All models defrost automatically and are self-evaporating. Insulation in the hermetically-sealed cabinet is of extra-heavy fiber glass.

For information: Sherer-Gillett Company, Marshall, Michigan.

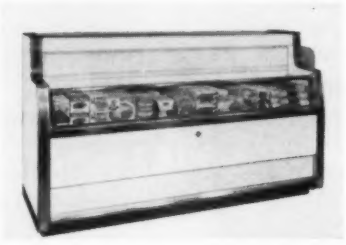
●

Defroster on Display Cabinet

A DEVICE that removes moisture from the air above the product on display and reduces frost formation on the inside walls of the case has been incorporated in the newest frozen food display case developed by Bally Case and Cooler Company.

Without this frost formation, says Leon Prince, Bally sales manager, defrosting by introducing heat is no longer necessary. Result: packages are always brick-hard, frost-free, thus reducing the refrigeration job. Small compressors are used, meaning low initial and operating costs.

The Bally Low Temp—in three



sizes: 11 cubic feet, 14 cubic feet, and 19 cubic feet—requires a half hp unit for the smaller size and a ¾ hp unit for the two larger sizes.

●

Spray Nozzles Offer Wide Range of Capacity

THE HOLLOWJET spray nozzles offer a wide range of capacities from 1.5 GPM to 1,100 GPM, all with a relatively small diameter spray pattern. At 40 pounds pressure, these nozzles produce a spray with a 30-degree spray angle. Hollowjet Spray nozzles are made in pipe connection sizes from ¼" to 5" in brass, steel and stainless steel.

These nozzles were designed for a wide variety of applications, where

concentration of the pattern area is necessary.

For information: Write for Data Sheet 7120, Spraying Systems Co., Randolph Street, Bellwood, Illinois.

●

Youth-Size Silver Settings as Premiums

THE "LOBELIA" pattern for place settings, Dixie Cup Company, premiums, are now offered for children to match their parents' knives and forks.

These special, small stainless-steel settings are exclusive with Dixie Products and designed to stimulate year-around sales. They may be obtained individually or in a set up to 48 pieces, which include knives, forks, cold drink

spoons, salad forks, soup spoons, cake server, serving fork, butter knife, sugar shell, and a storage packet.

The Dixie Cup Company was recently acquired by American Company.

For information: Dixie Cup Company, Easton, Pennsylvania.

●

New Milk Shake Bin

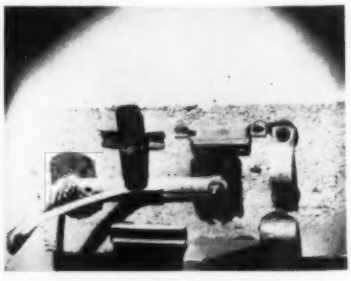
THE PERKINS DIVISION of General Foods Corporation is offering to retail stores a four-color display bin for the sale of Kool-Shake (chocolate, strawberry, and vanilla) which holds one case each.

For information: General Foods, White Plains, New York.

●

"Steel Putty" Eases Attachment of Piping to Concrete

AN ALLOY of micronized steel and epoxy resin for fastening conduit, piping, shelving brackets, wood, insulat-



ing and other materials to concrete without special tools or drilling is now available. The manufacturer claims that the bond it forms is unusually strong—that a single bracket, properly applied will support several hundred pounds. The joint is unaffected by heat, moisture and most chemicals. No

heating or solvent-evaporation is required for complete cure.

Consistency being putty-like, very rough surfaces can be joined. "Steelpatch," as the product is called, can also be used to glue steel and other broken-machinery parts together, to fill castings, to repair cracked engine blocks, or rusted-out mufflers and pipe leaks.

For information: The Lockrey Company, Plastics Division, Southampton, New York.

●

Unattached Refrigerated Cabinet for Use on Truck

PORTABLE refrigeration, in a convenient size, is the keynote of the new "Frozen Food Transporter" which utilizes foam plastic as in insulation agent.

The unit, whose insulation was engineered by Glo-Brite Products, Inc., uses molded, expandable polystyrene, four inches thick on all sides. A single block of dry ice serves as the refrigerating agent for a full working day. The "Transporter" holds approximately 100 pounds of frozen food and has a capacity of approximately three cubic feet.

The unit uses a self-sealing rubber gasket which prevents the entry of warm air.

Among its widespread uses, the "Transporters" are designed to carry frozen foods in conventional type of non-insulated trucks for transportation to retail markets and customers. These

units may be stacked in tiers in truck bodies for convenient handling.

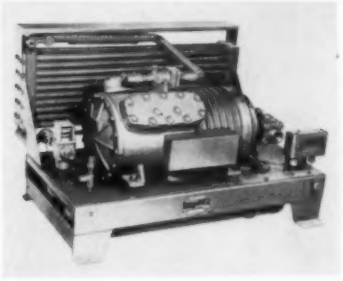
For information: Glo-Brite Products, Inc., 6415 North California Avenue, Chicago 45, Illinois.

●

Compact Condensing Unit

THE Brunner Company announces the addition of a five HP and 7½ HP condensing units to its line of semi-hermetic refrigeration condensing units, which now run from ¼ HP through 7½ HP. Compact size of the new condensing units provides fixture manufacturers with lowered space requirements and allows greater flexibility in end product design. Light weight of the units means low shipping costs and handling problems for manufacturers.

Both the five and 7¼ HP units are specially designed for residential and small commercial air conditioning in-



stallations. These units may be incorporated in the design of walk-in cases, reach-ins and frozen food display cases.

For information: The Brunner Manufacturing Company, 26 Fisher Street, Utica, New York.

●

Colorful Mugs Open Way to Six-Week Promotion Drive

A NEW and comprehensive sales promotion campaign has been developed by the Benner Glass Company for use by dairies interested in promoting cottage cheese and other dairy products. Keystone of the campaign is

Better PACKAGED BOILERS

- Completely factory assembled and fire tested.
- Fully automatic operation.
- 4-pass down draft design.
- Built-in induced draft.
- 80% thermal efficiency guaranteed.
- From 20 to 600 b.h.p. Burns oil, gas or both.

GET THE DETAILS FREE

BULLETIN 782F

for performance you can BANK on SUPERIOR STEAM GENERATORS

SUPERIOR COMBUSTION INDUSTRIES INC.
TIMES TOWER, TIMES SQUARE, NEW YORK 36, N.Y.

KENT GIVES MORE CAPACITY PER SQ. FOOT of SURFACE with AUTOMATIC ICE BIN

When you purchase an Ice Maker you are buying square feet of ice making wall. When you buy the new improved Kent Ice Maker you get more capacity for each square foot of surface.

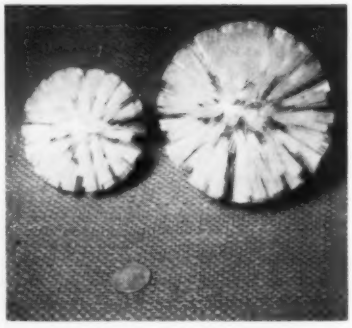
YOUR CHOICE OF SIX MODELS FROM 2 TO 30 TON OUTPUT

For further information about how the Kent Ice Maker can save you money — write — wire — call and you can still lease at as little as $1.50 per ton.

Set Up and Serviced by Experienced Local Refrigeration Companies Everywhere . . . Coast to Coast

KENT INDUSTRIES
2244 SO. MICHIGAN AVE.
CHICAGO 16, ILLINOIS
Telephone
DAnube 6-6434

Brush Is Pumped Through Pipe with C.I.P. Detergent



A BRUSH for in-place cleaning has been developed for utilization in conjunction with detergent solutions. The brush is pumped through the fluid milk lines and removes milkstone and other foreign matter from hard-to-get-at corners and crevices. According to the manufacturer, this means that the lines not only have been treated with detergent solution but have been well brushed as well.

Shaped like a ball, the brushes are available in outside diameter sizes from one and one eighth inch up to 3½ inches and are made of DuPont Tynex Nylon.

For information: Braun Brush Company, 8833 78th St., Woodhaven, L. I., 21, N. Y.

the attractive premium serving as the package for the dairy product.

The premium is the Party Mug, an item of the Siesta Ware glassware line, available in six pastel colors, in frosted glass, bound with highly polished metal bands and rustic carved hardwood handles to provide a strong six weeks sales campaign under the Benner's "Mug-A-Week Plan." Nationally advertised and sold by leading gift shops and department stores at $7.50 per set of six, the premium is priced to dairies to allow its merchandising—including a full profit portion of cottage cheese—to retail at only 69 cents each.

The plan also includes a Sales Manager's Hand Book, detailed instructions on the administrative, sales promotion, and advertising facets of the sales campaign.

For information: Russell Benner, Benner Glassware Company, 2359 Powers Avenue, Jacksonville, Florida.

●

Truck Body Has 356 Cubic-Foot Payload Area

THE functionally-designed 10-foot delivery body, built of high tensile steel, by Boyertown Auto Works, has a 356 cubic-foot payload capacity. It's design features a polished aluminum grid-type grille, and new, wider aluminum trim has been added to streamline the front fenders.

Other features: a recirculating hot water heater and a full window-width defroster chamber, a driver's seat safety latch which prevents the seat from being tilted forward until the latch is released by the operator's foot, the full-sweep, bottom-mounted windshield wipers, and an enlarged rear view mirror. And for the servicemen, engineers have provided easily-removable floor panels for faster access to engine and chassis.

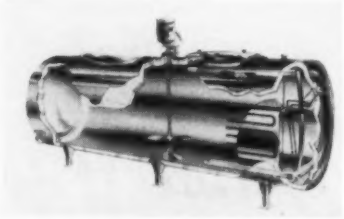
For information: Boyertown Auto Body Works, Boyertown, Pennsylvania.

●

Automatic Farm Tank Cleaning

A SYSTEM to allow the automatic cleaning of round or cylindrical farm tanks is announced by the Zero Manufacturing Company, Washington, Missouri.

The new system uses a variable speed motor to operate the agitator. The rheostat control does three jobs in one: the motor moves at a slow speed to agitate the milk during cooling; a faster speed turns the milk for butterfat testing; and when the tank



is empty the agitator spins at high speed to rinse, wash and sterilize. The "spatter spray" principle hurls the water at high speed against the tank walls. The whirling agitator thus creates a veritable "hurricane" in the vacuum-sealed tank, according to the manufacturer.

Another feature—soon to be available—will be a single push button to operate the entire cleaning cycle without attention. An automatic timer regulates each step, rinsing, washing, and

NO. 8308-S — STANDARD SQUARE CASE

The Industry's Widest Choice!
10 Different "Jug-Saver" Cases

BARKER "JUG-SAVER" CASES

for Every Type of Operation—Large or Small

TOP, BOTTOM, OR INTERCHANGEABLE STACKING — TO MEET YOUR NEEDS

Whatever your case needs for multiple quart jugs, you can find *exactly* what you want in this broad Barker line. For large volume operations, nothing can match the top stacking Barker No. 9308 4 gal. case, or the bottom stacking Barker No. 8308-S standard square case. Stacking ears on the former are guaranteed to outlast the case, and the famous "NuNESTyle" bottom construction is featured on the latter. For mixed operations where interchangeable stacking with quarts, pints, or half-pints is desired, choose the Barker No. 8308 4 gal. case or the No. 8308-A square gallon case for inverting jugs.

For oblong half-gallons, the Barker No. 8511-A-2 or the No. 8511-A-3, are probably the most popular and most universally used cases throughout the milk distributing industry. Stacking ears are guaranteed for the life of the case; cushion "flexi-bottoms" protect jugs against breakage and costly product loss.

BARKER EQUIPMENT COMPANY

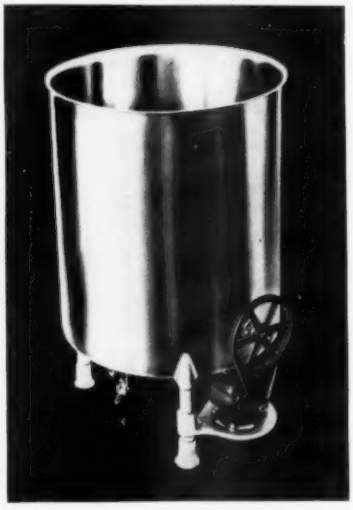
657 SEVENTH STREET -o- KEOSAUQUA, IOWA

sterilizing, and automatically dries the inside surface, if desired.

For information: Zero Manufacturing Company, Washington, Missouri.

●

Stainless Steel Tanks Afford High-Speed Mixing



STAINLESS STEEL mixing and storage tanks by the Pfaudler Company are sturdy and easy to clean, according to the maufacturer. A stainless steel twin hexagon bladed agitator, mounted in the sidewall for mixing syrup with a figure "8" shaped turbulence, assures fast mixing at 478 RPM The agitator may also be mounted through the bottom with slow, variable speed drive (212 - 425 RPM) when an upward surge for pulp is desirable. For more sanitary, trouble-free operation, a bracket holds the lubricated ball-bearing away from the tank wall. Adjustable belt tension counter-balances the agitator.

The channeled outlet assures speedy, complete drainage. Valve seats inside the tank and lifts upward to open, so that pockets of product cannot block drainage.

For information: The Pfaudler Company, 1031 West Avenue, Rochester, New York. Ask for Bulletins 941 and 918.

●

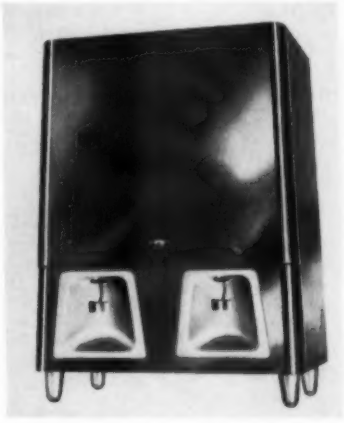
Milk Dispenser Features Single Service Tube

ANOTHER BULK milk dispensing machine designed for institutional and restaurant use has been announced by Monitor Dispenser Company.

Built to 3-A sanitary standards, the new Monitor Model MF features a unique new single service, soft rubber dispensing tube which cannot be removed accidentally.

The tube, a pre-folded, pre-sealed and pre-capped unit, is attached at the dairy to a one-inch stainless steel nipple at the bottom of a standard milk can. It is sealed inside the can, safe from damage and contamination while in transit or when placed in the dispensing machine. After the can is in the dispenser, the sealing cap is removed and the tube may be pulled down into operating position.

The units are made of heavy gauge stainless steel and have white plastic



dispensing panels which can be removed for washing.

For information: Monitor Dispenser Company, Inc., 192 Bright Street, Jersey City, N. J.

●

Materials Handling Method Allows Maximum Space Use

A NEW METHOD of materials handling and bulk storage that stores a maximum amount of material in a

Murphy Bodies Are Preferred across the Nation

Another Murphy-built body for Losten's Dairy. Has jack knife side doors, double slide-to-doors in bulkhead. 114 case capacity — based on 20 quart paper case.

North, south, east, west, Murphy bodies are on duty for wise owners who rely on Murphy excellence in engineering, styling, and tailoring to their particular needs. Re-orders by these same people prove that Murphy bodies stand up to the most rigid testing — that of on-the-job duty — where toughness, economy and convenience call the plays.

Put the Murphy body to work in your dairy business for improved delivery service, greater carrying capacities, and easy product accessibility. Lightweight steel construction keeps operating costs down.

Write, wire, or phone for complete information.

CUSTOM BUILT WHOLESALE AND RETAIL MILK BODIES IN ANY SIZE FOR ANY MAKE OR MODEL CHASSIS

MURPHY BODY WORKS, INC.

310 HERRING AVE. • WILSON, NORTH CAROLINA • Telephone 7-1146

minimum amount of space has been devised in the "Burlington Way" Drive-In Racks. Utilizing all available overhead space and eliminating access aisles with its "Drive-In" feature, the method saves valuable floor space. The manufacturer maintains that the method eliminates breakage and crushing and permits circulation of conditioned air in produce and freezer rooms.

The principle of operation is that of a multiple row rack, permitting pene-

tration by the lift truck to the full depth of the rack, where the loaded pallet is set down, with others following until the desired multiple of pallets is established. The depth of the pallets is determined by the size of the item inventory, the character of the material stored, and the lift equipment.

For information: Burlington Fabricators, Inc., Box 155, Burlington, New Jersey.

●

Dry Acid Compound for Corrosion Removal

A NEW POWDERED acid material which removes rust, scale and corrosion with greater safety to metal surfaces as well as personnel, has recently been introduced by Oakite Products, Inc., manufacturers of industrial cleaning and metal treating materials.

Added to water in concentrations of about eight ounces to the gallon, Oakite Drycid is said to go into solution fast and to be useful in applications by circulation or immersion. Solutions of the compound may be used cold or for faster action, heated to 165 degrees F. It is said to be effective in the removal of scale, scale-like deposits, rusts, iron sulphides and other oxides.

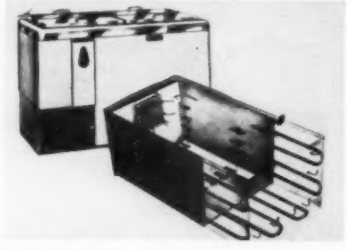
Advantages: ease of shipment and storage; requires no returnable carboys but is shipped in fiber drums; mild, aromatic, non-fuming; safe on aluminum, brass, galvanized surfaces when used as recommended.

For information: Oakite Products, Inc., 157 Rector Street, New York 6, N. Y.

●

"Forced Air" Cuts Cooling Time in Store Cabinets

TO MEET the fast turn-over requirements of modern merchandising, the Punxsutawney Company has developed the new Beverage Air "Forced Air" Bottle Coolers. The coolers are said to offer all the advantages of



standard "Wet or Dry" cooling plus the rapid refrigeration and economy of "Forced Air."

Because the cooling fans operates only when the unit is running, Beverage Air "Forced Air" coolers assure a positive, even flow of refrigerated air throughout the entire storage areas for quick, low-cost cooling.

For information: The Punxsutawney Company, Punxsutawney, Pa.

ADA SALES PUSH

(Continued from Page 99)

wiches. The largest use in cooked dishes occurs at supper time.

12. Housewives recognize the advantage of cheese in meatless meals.
13. Almost one-fourth of all homes have cottage cheese on hand on an average day, and almost one-half use it within a week.
14. Cottage cheese is eaten primarily because people like the taste. It is eaten frequently by males as well as females
15. The number of homemakers using butter only or both butter and oleomargarine continues at a higher level than two years ago.
16. Butter has gained in prestige cooking uses over the last three years while oleomargarine has declined in each major category.
17. Almost one-third of all homes have ice cream on hand on an average day, and about one-half serve ice cream as a dessert at least once a week.

Supply and Personnel

Robert H. Schwaig appointed sales representative in the St. Louis, Mis-

Robert H. Schwaig

Robert L. Cherry

souri, area for the PFAUDLER CO., Rochester, New York, producers of glassed steel process equipment.

OLIN MATHIESON CHEMICAL COMPANY announced the appointment of **W. Adrian King** as general sales manager of the INDUSTRIAL

Paul Miller

William Ohley

CHEMICALS DIVISION. He was formerly manager of the division's automotive products department.

Jean J. Charest elected president of the BORDEN COMPANY, LIMITED, a Canadian subsidiary of the BORDEN COMPANY with headquarters in Toronto, Ontario.

General J. Lawton Collins, U.S.A. (Ret.), elected to the PFIZER CO. Board of Directors.

DAIRYPAK INCORPORATED, increases field sales: **Robert J. Anderson** (midwest district); **Robert L. Cherry,** (southern district); **Eldred (Jack) Hayes, Jr.,** (midwest district); **Joseph F. Jones,** (south central district); **Cecil (Scott) Killingsworth,** (south central district).

JUNE FEATURE

SOUR CREAM DAIRY DRESSING

CAPITALIZE ON YOUR OWN INDIVIDUAL BRAND NAME

with the only 12 month plan complete with

Service on product . . . Service on packaging . . . Service on merchandising.

For further information write, wire or phone the

G. P. GUNDLACH & CO. *"Servants to the Dairy Industry"*

BOX A • STATION N • CINCINNATI 3, OHIO

Equipment News

Robert J. Anderson

Eldred Hayes, Jr.

Jean J. Charest

Francis R. Moore

William Ohly appointed manager of distributor sales for Acro Division of ROBERTSHAW-FULTON CONTROLS COMPANY.

James D. Crum

C. A. Killingsworth

John Mackesy selected as winner of the 1956 David C. Ball Award for distinguished service given by OAKITE PRODUCTS, INC.

Thomas A. Downey assigned by the PFIZER CO. as representative to the industrial section; and **Charles Feldberg** representative to the food and beverage section.

James S. Anderson

Joseph F. Jones

James S. Anderson, formerly general sales manager of the Tubular Products Division of the BABCOCK & WILCOX COMPANY, elected a vice-president of the company in charge of sales.

Bernard L. Thompson joined ALLIED CHEMICAL'S Semet-Solvay Division as manager of advertising after ten years in industrial public relations.

Two appointments by the BASCA MANUFACTURING COMPANY, **Charles G. Schwartz** as Sales Manager

Charles G. Schwartz

W. Adrian King

and **Francis R. Moore** as Packaging Sales Manager.

Appointment of **James D. Crum** as sales engineer assigned to the Baltimore office of Fulton Sylphon Division, was announced by ROBERTSHAW-FULTON CONTROLS COMPANY.

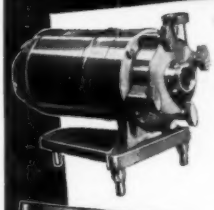
The NOPCO CHEMICAL COMPANY has announced the appointment of **Rene Lastreto** as Vitex Sales representative for northern California and northern Nevada. Taking over from **Mr. Lastreto** will be **Vern C. Lefavor.**

Paul Miller has been named Eastern sales manager for the tank division of the HEIL CO., Milwaukee.

Stainless Steel and Nickel Alloy Equipment

THOMSEN

for the Processing Industries



"UNI-MOUNT" SANITARY PUMPS

Complete newly designed line; either all stainless steel or nickel alloy. Smooth steady flow without churning or agitation. Simplified sanitary rotary seal — no glands. Improved impeller design with 4 position outlet. Quick easy disassembly. Also "Uni-Mount" Brine and Water Circulating Pumps in iron, bronze, or stainless.

VALVES AND FITTINGS

Complete line, stainless steel and nickel alloy; recessed, recessless, and gasket types. Finest precision workmanship in every detail. No pit-holes or rough surfaces. Highly polished to mirror smoothness.

THOMSEN "C-I-P" FITTINGS

Both Thomsen and Davis types. Most practical and sanitary for cleaned-in-place pipelines. Convert old lines and fittings by simple grooving operation. Thomsen C-I-P-VERTER converting machine available.

LINE FILTERS AND TUBING

1", 1½", and 2" connections. 1,000 to 4,000 lbs. per hour capacities. Stainless steel tubing; all lengths and finishes, 1" to 4" dia.

SUPER-SPEED TOOLS

For expanding 1" to 4" sanitary pipeline connections. Leak-proof joints, no welding.

BE WISE BUY WISE

L. C. THOMSEN & SONS, INC., KENOSHA, WIS.

Low Cost Jug Handles

for store and retail bottles

HAYNES "Thrifty Handles"

With Stainless Steel Clips

EASILY AND QUICKLY ATTACHED. TAKES ONLY A FEW SECONDS. NO TOOLS NEEDED.

FOR ALL HALF-GALLON AND GALLON SIZE JUGS

Many Outstanding Features

PACKED IN CARTONS CONTAINING 1000 HANDLES.

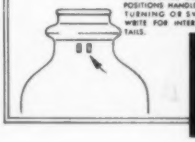
WHEN ORDERING SPECIFY MODEL, SIZE & FINISH OF JUG.

ATTRACTIVE • STURDY • CONVENIENT

- CLIP HALVES MADE OF Stainless Steel. LONG LIFE. NO RUSTING. HANDLE IN BRIGHT ZINC FINISH.
- HOLDS SECURELY - CANNOT BE PULLED OFF
- JUGS WITH "Thrifty Handles" CAN BE MACHINE WASHED, FILLED & CAPPED.
- AVAILABLE FOR EVERY STYLE & FINISH OF GALLON & HALF-GALLON BOTTLES

HAYNES BOTTLE LUG

THE HAYNES BOTTLE LUG POSITIONS HANDLE - PREVENTS TURNING OR SWIVELING. WRITE FOR INTERESTING DETAILS.



LOW COST!

"ORDER FROM YOUR DAIRY SUPPLY JOBBER"

HAYNES

THE HAYNES MANUFACTURING CO.

709 Woodland Ave. - Cleveland 15, Ohio

Classified Opportunities

EQUIPMENT — SERVICES — PERSONNEL — ETC.

To ensure appearance of your ad in a given issue, copy should be in our hands by the 15th of the previous month (i.e.: copy in by October 15th for November issue).

FOR SALE OR EXCHANGE (BUSINESS MACHINERY AND SUPPLIES), WANTED TO BUY, BUSINESS OPPORTUNITIES, SALES PROMOTION, ETC.

Lightface, per word.....$ .10 **Boldface, per word.....$ .15**
Minimum Charge ..... 2.00 **Minimum Charge 3.00**

HELP OR POSITION WANTED

Lightface, per word.....$ .05 **Boldface, per word.....$ .10**
Minimum Charge ..... 1.00 **Minimum Charge 2.00**

BOX NO., DOMESTIC (additional)....$ .50 **BOX NO., FOREIGN (additional).....$1.00**

(In counting the number of words, please remember to include the address. This applies also to box numbers.)

DEADLINE—20th of the month preceding publication. PUBLISHED first of the month.

No classified advertising will be accepted to run with borders or special spacing. All such advertisements are considered "Display" advertising and will be billed at regular display advertising rates. (Rates and mechanical requirements on request.)

NOTE: Names and addresses of advertisers using blind addresses cannot be furnished direct from this office. Write to Box Number (as indicated), care of American Milk Review.

NOTICE: The publisher disclaims any responsibility for the reliability of parties advertising in our Classified Opportunities Section, or for the truthfulness of statements made in such advertisements. In answering such ads, ask for references if parties are unknown personally, before sending money. Our readers are requested to assist us in keeping unreliable parties from advertising by reporting suspicious dealings.

We reserve the right to refuse to accept advertisements which we believe are detrimental to the dairy industries.

EQUIPMENT FOR SALE

CP 24 Bottle electric Babcock TESTER; Torsion balance SCALES; 100 metal 5 gallon Ice Cream CANS. 100—24 lb. gallon MILK CANS, upright handles. 15—2 gallon ice cream neopolitan TRAYS; about 1,500 Sealright round gallon CONTAINERS, were special print, covers plain, will sell five cents each. Contact: BATH CREAMERY, T. R. Thayer, Bath, New York. 6-M-57

C.P. 1,500 lb. two door Rollerless CHURN, make us an offer, F.O.B. Penn Yan, New York. Contact: T. R. THAYER, Bath, New York. 6-M-57

Water tower or water saver with motors, used one season; B. H. Cellophane Hooding Machine; used G-70 C-B FILLER. Write to: BERGMAN'S DAIRY, 212 South Chestnut Street, Derry, Pennsylvania. 6-M-57

2,500 gallon all stainless steel Howard farm pickup TANK on Model R Dodge tandem drag axle. Used 18 months, A-1 condition. 90 gallon per minute Viking PUMP, cost $16,800, will sell $12,000. Write to: EARL RICH, 2029 So. Erie, Wichita 16, Kansas. 6-M-57

De Laval Model No. 292-B Cold Milk SEPARATOR. All parts coming in contact with milk of stainless steel. In excellent condition, bowl practically new. Available late July or August. Also, one, used Model No. CH-2 American Can, hand operated, Cramer FILLER. Write to: PENNSYLVANIA DAIRY SUPPLY COMPANY, Doylestown, Pennsylvania. 6-M-57

C.P. 40 qt. Batch FREEZER, direct expansion. 3 Ammonia COMPRESSORS: C.P. 6 ton 6½ x 9, 10 H.P. motor, C.P. 15 ton 7¼ x 14, 25 H.P. motor, Brunswick 10 ton 2 cyl. 6 x 5¾, 15 H.P. motor. 2— 5 H.P. motor Centrifugal water PUMPS. ADDRESSOGRAPH. No reasonable offer refused. Write to: HENDERSON ICE CREAM COMPANY, 416 Main Street, Hobart, Indiana. Phone HObart 434. 6-M-57

EQUIPMENT FOR SALE

Powder ELEVATORS and CONVEYORS, all S.S.; 6 ft. ELEVATOR with 1 H.P., 3 ph., 220V motor; 8 ft. ELEVATOR with 1 H.P., 3 ph., 220V motor; 5 length CONVEYOR: 12 ft., 8 ft., 6 ft., 2½ ft., 1½ ft., and 1 ft. long respectively; 3 conveyor crosses; 2 gear head motors for conveyors. Write to: BARRON COOP. CREAMERY, 616 E. Monroe Avenue, Barron, Wisconsin. 6-M-57

C.B. MILWAUKEE FILLER model G.V. 61 GraVac for 48 mm. glass ½-gal. oblong, square qts., pints and ½-pints. Complete with 3/60/220 motors and coverall type capper. SURFACE TYPE MILK COOLER 6 ft. long, 2 sections, 18 one inch T. C. Tubes each section with S.S. upper pipe distributor and S.S. lower trough. C.B. MODEL A W MILK RECEIVING AND WEIGHING UNIT S.S. tank and Fairbank Double Beam Scale. C.B. MODEL O N MILK PUMP with ½ H.P. 1/60/110 motors. TRI CLOVER LADISH BRINE Pump with ½ H.P. 1/60/115/230 motor. SPECIALTY BRASS N.A. Milk Pump with ¼ H.P. 1/60/110 motor. C.B. No. 6 TUBULAR FILTER. C.B. MODEL 200 JR. Sanitary Viscolizer Homo with 7½ H.P. 3/60/220 motor. INTERNATIONAL HARVESTER SEPARATOR 1,000 lbs. per hr., S.S. bowl with ¼ H.P. 1/60/230 motor. WASH TANK ⅛" plate steel all welded size 30" x 38" x 14½" deep. Damrow CHEESE VAT 180 gal. size S.S. lining with plate steel outer jacket. This equipment is in A-1 condition. Due to the fact that we purchased two small dairies, this equipment is for sale. WRITE TO: FELDMANN DAIRY, INC., Licking Pike, Newport, Kentucky. 6-M-57

Meyer-Dumore Milk Bottle WASHER, 12 Wide, Junior Type 3 compartment cap. 120 bottles/min., qts., pts., ½-pts., on skids but not crated. Cost originally $15,000 installed, will sell for $3,950.00 cash. Cherry-Burrell Milk Bottle WASHER, 7-Wide, Model K.C. Cap. 49 bottles/min. ½-gal., rect. qts., pints. On skids but not crated. Cost $8,000 installed, sell for $3,695.00 cash. Contact LOUISIANA CREAMERY, INC., P. O. Box 1188, Baton Rouge, Louisiana, or call Dickens 2-8843—Manch S. Cadwallader. 6-M-57

EQUIPMENT FOR SALE

Complete PASTEURIZING equipment; consisting of one C-B Spray F S.S. 150 gallon PASTEURIZER, Sentinel control, 6 ft., 2 Sec. S.S. COOLER with King Zeero water cooler and compressor; Specialty Brass automatic 6 valve FILLER, qts., pts., and ½-pts. and milk and water pumps; complete unit; unit will be demonstrated on request; best offer. Write to: WOODSIDE DAIRY, Box 153, Spring Valley, New York, or call SP. 6-0288. 6-M-57

6-18 Cherry-Burrell FILLER. 50 gallon Cheese VAT. S.S. Soda Fountain and Sinks. 6 ft. Meat Case. 5 ft. Candy Case. S.S. Pipe. Any reasonable offer accepted. All in very good condition. Write to: C. K. RIGGS, Painesville, Ohio. Phone ELmwood 4-4687 6-M-57

FOR BUTTER PATTIES — WAXED U-BOARDS, 6"x15¼", 16 point double white, $9.00 per thousand or 5⅛"x6⅜", $3.00 per thousand. Samples cheerfully sent upon request. Write to: BORAX PAPER PRODUCTS COMPANY, 350 East 182nd Street, Bronx 57, N. Y. 6-M-57

BOILERS — HIGH PRESSURE. WE CARRY A large selection of ASME National Board high pressure boilers, gas, oil and coal fired, ranging from 10 to 1,000 h.p. Each guaranteed in excellent condition. Sale sheet and complete data sent upon request. Write to: WABASH POWER EQUIPMENT COMPANY, 31 East Congress, Chicago 5, Illinois. 6-M-57

125 CGD MANTON-GAULIN HOMOGENIZER. 136 De Laval CLARIFIER. Lathem Time CLOCK. R. C. Allen Cash REGISTER, 35 H.P. Leffel BOILER. Jonson Oil BURNER. 5,500 gal. C.P. S.S. VAT. Index THERMOMETER. Cooling TOWER Double beam Fairbanks SCALE. Model 102 Anderson Ice Cream Package FILLER. Twin popsicle TRAYS with S.S. stick holders. Eight good centrifugal PUMPS. Fifteen motors, sizes ¼ to 7½ H.P. Write to: LARSON'S DAIRY, Leon, Iowa. 6-M-57

SELL 2 - FOR LESS THAN A PENNY!
COUPLE QUART CARTONS into easy-to-carry half gallons! Plastic TWO-TOTERS snap on quick, hold tight and remove easily from Canco or Pure-pak cartons. Re-usable!
TWO-TOTER
For free sample and price list write to:
MAYFAIR PRODUCTS
Post Office Box 37
Torrance, California

In Buttermilk
FLAVOR'S FIRST
And to be sure of that good, rich, old-fashioned flavor EVERY DAY . . . use CHUMLEA'S New and Original CHURN FLAVOR Starter Activator.
Free Sample Upon Request
Chumlea's LABORATORIES
LEBANON, INDIANA

EQUIPMENT FOR SALE

1—Cabinet COOLER, Cherry-Burrell Wing Type Stainless Steel, 3 leaves, approximately 8,000 lb. of milk per hour. Complete with ammonia controls. Flooded ammonia system. Cost of similar unit is $4,300 for Cooler and $700 for controls or total of $5,000. Our price: $2,725.00. 1—Glass FILLER, Cherry-Burrell G.V. 16—½-pt. through ½-gallon oblong. Speed 72 qts. minute. 6 head capper, ⅓ H.P. motor drive. 1 H.P. exhaust. Serial No. 388. Left hand. Very latest type valve. Vacuum filler. Very good condition. New price on this filler approximately $6,500.00. Our price: $2,700.00. 1—Separating—Standardizing—Clarifying 3 way Sharpless SEPARATOR, Stainless Steel with white baked enamel outside. Hot or cold separating. Capacity 12,000 lb. an hour, 6,000 lb. an hour cold. Model RF 20 MP, 3 phase, 60 cycle, 220 volt motor. Includes motor starter, bowl crane, etc. Complete. This unit is just like new, as it has been used very little. Today's cost for this unit is $6,350.00. For all practical purposes this unit is as good as new. Our price: $4,500.00. 2—200 Gallon Cherry-Burrell Spray PASTEURIZERS, Stainless Steel inside and outside, with circulating pumps and motors. These units are just like new and each would cost approximately $2,200.00 today. Our price: Ea. $690.00. 1—Continental Bottle WASHER, 11 wide; 3 pockets for oblong ½-gallons and 8 pockets for ½-pints through quarts. Washer is 2 years old and is in EXCELLENT CONDITION. If you were to purchase this washer new today it would cost $9,600.00. You can save $3,000.00. Our price $6,600.00. 1—Ice Cream Body and Truck, mounted on 1955 Chevrolet 2½ ton chassis, cab over engine style, 2 speed rear axle. Six doors in body, with self contained refrigeration unit, just overhauled. 1,500 gallon capacity. Our price: $3,900.00. 1—1,000 lb. Stainless Steel receiving room drop TANK, low style, like new. Our price: $375.00. 1—Weigh Scale Dump TANK, like new. Our price: $175.00. 1—Damrow 6,800 lb. Cheese VAT. 2 years old. Stainless Steel inside—gray steel jacket. 14 ft. 6 in. long and 58 in. wide inside. 21 in. deep in back and 27 in. deep at valve. 3 in. perfection valve. Latest circulating type. Like new. Our price: $700.00. 1—2,200 Gallon Milk Truck TANK and TRAILER. Stainless Steel inside with steel jacket, cork insulated. Painted white. Very good. Our price: $2,290.00. 1—COOLER, box type, Cherry-Burrell, tinned copper, which can be readily used for Sweet Water. Our price: $85.00. 2—Self Contained Air COMPRESSORS for garage work with tanks, etc.—Complete. Our price: Ea. $75.00. 1—HOMOGENIZER—Cherry-Burrell, 300 Gallon, with Stainless Steel head. Our price: $165.00. 1—Cheese VAT, Stainless Steel inside. 90 in. long and 40 in. wide inside. 20 in. deep in back and 22 in. deep at valve. 2 in. slope. Stainless Steel valve. 2,750 gallons. Our price: $150.00. APPROXIMATELY: 17,400 Sealright Cone Quart Paper BOTTLES for 52 mm. plug cap. 8,800 Sealright Cone Pint Paper BOTTLES for 52 mm. plug cap. Very suitable for lake route or industrial distribution. Our price is 1c each, which is less than half the cost. FOR FURTHER INFORMATION WRITE OR PHONE: GEHL'S GUERNSEY FARM, INC., 3326 W. Capitol Drive, Milwaukee 16, Wisconsin. HI. 5-3326. 6-M-57

S.S. Truck TANK 359 Can; STORAGE TANKS; 50 can Pfaudler, 120 can insulated, 329 can insulated, 3—50 can Surge Tanks; Buflovak No. 6.5-29D S.S. Double Effect EVAPORATOR; Double DRUM DRYERS: 2—42" x 100", 32" x 52", 24" x 36"; Buflovak Model 300 and Model 650 SPRAY DRYER and EVAPORATOR; York 12½ x 14½ Ammonia COMPRESSOR 125 Tons; CB 400 gallon VISCOLIZER. Write to: PERRY EQUIPMENT CORPORATION, 1425 N. 6th Street, Philadelphia 22, Pennsylvania. 6-M-57

EQUIPMENT FOR SALE

STAINLESS STEEL TANKS AND TRANSPORTS—Special Sale on big stock of clean units. Immediate delivery— s/s & c/s jackets—single axle & tandem, all guaranteed. Consult us for your leasing requirements for Sanitary & Chemical Transports. Write to: THE BRODIX CORPORATION, U. S. Highway 22, Box No. 6, Dunellen, New Jersey. DU. 2-9300. 6-M-57

Triangle Bagby FILLER Model R-1 $500.00. Anderson Ripple PUMP Model VO3 $100.00. Wire and wood CASES, all sizes, quarts, pints and half $1.25 each. 12 gross two quarts plain 56 MM $12.50 gross. Manton-Gaulin 12,000 lbs., $1,500.00. De Laval CLARIFIER No. 226, $350.00. SEPARATOR No. 136, $350.00. Anderson direct fill 3 ounce cup, $500.00. Cherry-Burrell Vogt continuous FREEZER 80, Serial 5495, with 15 H.P. Brunner Freon COMPRESSOR, one year old, $5,000.00. Heil 2,650 S.S. oval TANK mounted on four wheel trailer $1,500.00. Cherry-Burrell G100 FILLER $200.00. 200 gal. S.S. mix PASTEURIZERS, two agitators, with two speed motor $600.00. Ice cream bar VENDER $125.00. Write us what you need; we buy, sell, and trade. Write to: GORDON EQUIPMENT COMPANY, 6530 W. Jefferson, Detroit 17, Michigan. 6-M-57

Cherry-Burrell fruit FEEDER. 80 gallon Vogt FREEZER. 100 gallon stainless steel PASTEURIZER. One Revel PUMP. One 6 x 6 York COMPRESSOR. Write to: SCHLOSSER BROS., INC., 315 W. Garro Street, Plymouth, Indiana. 6-M-57

Five Schaefer GF-224—22 cu. ft. glass front CABINETS; holds 1,113 pts., never uncrated; guaranteed in good working condition, $465 each. Write to: MAILENDER-BARNETT COMPANY, INC., 427 East Sixth Street, Cincinnati 2, Ohio. 6-M-57

C-B Super Homo HOMOGENIZER, 300 gallon per hour, 10 H.P. motor, recent model. Close out price. Write to: I. DAVIS, 715 - 11th Avenue, New York, New York. Phone COlumbus 5-1200. 6-M-57

SALE—BOTTLES & CASES: 7,500 Handi-sq. qts. 56 mm. 10,000 tall sq. qts. 56 mm. 400 Hardwood CASES for fibre, 24 qts. 6,000 Tall R R ½-gallon 56 mm. 16,000 Handi-sq. qts. 48 mm. 500 CASES tall sq. qts. Write to: E. L. WEBSTER, 1502 Patterson Avenue, Fresno, California. Ph. AMherst 6-1467. 6-M-57

120—3¼-oz. (24 pocket) Ice Cream MOLDS, in good condition. Write to: SUPERIOR DAIRY, INC., 4719 Navarre Road, S. W. Box 9. Canton, Ohio. 6-M-57

Model 125 CGD, 200 "E" & 500 CGD Manton-Gaulin HOMOGENIZERS. Rebuilt and in excellent Condition. Guaranteed. Write to: OHIO CREAMERY SUPPLY COMPANY, 701 Woodland Avenue, Cleveland 15, Ohio. 6-M-57

Heil 8 Wide Bottle WASHER. Capacity 80 BPM. 24 ft. long. Good condition. Can be seen in operation. Low priced. Write to: OHIO CREAMERY SUPPLY COMPANY, 701 Woodland Avenue, Cleveland 15, Ohio. 6-M-57

USED FARM PICK-UP TANKS: 1,500, 1,600 and 1,800-gallon capacity. Most of these are manufactured by the Heil Company but other makes are available. Write for full details. STUART W. JOHNSON & COMPANY, 611 Main Street, Lake Geneva, Wisconsin. 6-M-57

MILK TRAILERS—USED: 1—2,750 gallon two-compartment Heil. 1—3,400 gallon Heil Tandem. 1—4,000 gallon completely rebuilt Heil. 1—4,000 gallon Standard, Tandem. New guarantee, new tires. All Grade A Tanks. Good Shape. Write to: BRUCE E. HACKETT COMPANY, 1400 Kansas Avenue, Kansas City, Kansas. Phone: MAyfair 1-2363. 6-M-57

EQUIPMENT FOR SALE

Ice Cream peddling TRUCKS dry ice and mechanically refrigerated—all in good condition; reasonable; also have four dry ice BODIES suitable for mounting on Crosley or Jeep chassis. Write to: JACK & JILL ICE CREAM COMPANY, 917 N. Watts Street, Philadelphia, Pennsylvania.. 6-M-57

"ELECTROMATIC" FILLERS FOR PURE-PAK—CANCO—SEALING CARTONS. Manual or Fully Automatic Models. TAKE ADVANTAGE OF DIRECT FACTORY BUYING. Write to: THE MOJONNIER-DAWSON COMPANY, 9151 Fullerton Avenue, Franklin Park, Illinois. Gladstone 5-1013. 6-M-57

Clayton Steam GENERATOR, 15 H.P., oil fired; Creamery Package Sweet Water COOLER, 5 H.P., Delcler Compressor & Controls; G-7 seven valve glass bottle FILLER with 51 mm. 4 head Coverall Capper; Econ-O-Seal Unit and 3 (51 mm.) capping heads; 150 gal. Spray F PASTEURIZER, Stainless Steel inside and outside, insulated, 110 A.C. Senti controls, Taylor Recorder & Thermometers, with milk pump; 150 gal. Spray F PASTEURIZER, painted outside, 110 A.C. controls, Taylor Recorder & Thermometers with milk pump; 6 ft. Cooler Board with Covers; De Laval Cream SEPARATOR E-29, Stainless Steel Bowl; ¾ H.P. Milk PUMP; 2 H.P. Compressor & blower coils; Model E, 300 gal per hr., Manton-Gaulin HOMOGENIZER, 7½ H.P., 3 phase motor; Quantity ½ gal. rect. BOTTLES, 51 mm. plain; Quantity CANCO containers, lettered and stock, qts., pts., and ½-pts. Contact: BRADFORD'S DAIRY FARMS, Huntersville, North Carolina. 6-M-57

A. H. Arnold & Co., 10 to 12 can per minute straightaway Can WASHER. Stainless steel grid. This is a new can washer and hasn't been used. Price $4,500.00. F.O.B. Chicago. Terms can be arranged. Also, one L.P. 6 can Rotary can Washer, used. $200.00 F.O.B. Big Rapids, Michigan. Write to: LIBERTY DAIRY COMPANY, Big Rapids, Michigan. 6-M-57

Grand Rapids Dairy Store fixtures, four years old. Stainless Steel center island type 51 seating capacity. Write to: PERFECTION DAIRY, 5888 Chestnut Drive, Parma 29, Ohio. 6-M-57

1,200 GOOD WIRE SQUARE, 12-QUART MILK CASES .90c each, F.O.B. CINCINNATI, OHIO. PERFECT CONDITION. FIRST COME, FIRST SERVED. Write to: MAILENDER-BARNETT COMPANY, INC., 427 East Sixth Street, Cincinnati 2, Ohio. 6-M-57

Cherry-Burrell Soaker Bottle WASHER, 4 Wide Will wash tall ½-pints to and including square half-gallons. Good operation condition. $300.00 f.o.b. Rochester, New York. Write WHITE OAK DAIRY, 1021 Wegman Road, Rochester 11, New York. 6-M-57

70 gross 51 mm., half gallon, Pyroglazed square BOTTLES, with lobes. $10.00 per gross f.o.b. Rochester, New York. Write WHITE OAK DAIRY, 1021 Wegman Road, Rochester 11, New York. 6-M-57

1—Fairbanks 1,000 pound Dial platform SCALE reconditioned September, 1956 and used up until April 1, 1957. 1—Purity 750 pound stainless steel Weigh CAN, all welded construction and polished. 6" Caniden outlet valve. Milk strainer above milk level. New in March 1954. Will sell both for $495.00 FOB Rochester, New York. Write A. WELKLEY DAIRY FARM, 1022 Penfield Road, Rochester, New York. 6-M-57

Good USED EQUIPMENT for all types of milk plants. Write us as to what you need and we will mail late list of available items with prices. Write to: OTTO BIEFELD COMPANY, Watertown, Wisconsin. 6-M-57

Write for complete information! **Kari Kold**

219 Scribner Ave., N.W. • Grand Rapids 4, Mich.

KVP **butter wrappers**

THE KVP COMPANY
KALAMAZOO, MICHIGAN

EQUIPMENT FOR SALE

TRUCKS FOR SALE—ICE CREAM TRUCK—COMPLETE. Body and truck just like new. Body is 12' American Walk-In Low Temperature on 1956 Dodge Model G-6 with 5,531 actual miles. READY TO PUT TO WORK. Write or call BAKER TRUCK RENTAL, 302 North Osage, Wichita, Kansas. Phone AMherst 7-1291. 6-M-57

USED WOODEN CASES!!! 24 tall square ½-pints, 20 squat, square ½-pints, 20 square pints, 12 square quarts, 6 square ½-gallons, 4 square gallons. All wooden cases to be overbranded with your name. USED WIRE CASES!!! 30 tall square ½-pints, 12 square quarts, 12 square cream top quarts, 12 round quarts, 5 round gallons, 6 square ½-gallons. USED EQUIPMENT: C.P. 26 FILLER and CAPPER, Federal A-93 FILLER and CAPPER, Steriline 300 gallon PASTEURIZER, Illinois Creamery 200 gallon PASTEURIZER, Girton Pressure WASHER, Bagby Model DI Cheese FILLER, Schlueter Separator Parts WASHER, United Metal Seal Cheese FILLER, 3 ton Vilter Pak Ice Storage BIN, 72 mm Hand CAPPER, 1 lot used FITTINGS, 1 lot used MOTORS, 1—1,000 lb. Toledo SCALE with Weigh Can. USED MILK BOTTLES!!! 48 tall square pints, quarts and ½-gallons. All with blown letters. Some of the above have never been used. 8 oz. 2⅜" capseat cheese JARS. USED THERMOMETERS!!! Sentinel Recorders with 28" stems to be used with OP1657 Charts—Foam Heater Thermometers—long stem (28") indicating thermometers — Rebuilt recorders — 31" and 24" stem. Write to: STUART W. JOHNSON & COMPANY, 611 Main Street, Lake Geneva, Wisconsin. 6-M-57

FOR SALE—10,000 lb. York Short Time PASTEURIZER; 100 to 500 gallon S.S. PASTEURIZERS; Jensen S.S. Cabinet COOLER, 4 wings 30 tubes high; 40 H.P. Cleaver Brooks BOILER; 250 and 300 gallon S.S. TANKS; 4 to 12 Wide Soaker Type Bottle WASHERS; GV-72 Cherry-Burrell Vacuum FILLER, fills up to ½-gallons; 7 and 10 Valve Cherry-Burrell FILLERS for 38 mm. Dacro Bottles; 3,500 lb. De Laval Cold Milk SEPARATOR; 7,000 lb. De Laval Hot Milk SEPARATOR; De Laval CLARIFIERS, 4,000 to 20,000 lbs. capacity; 125 to 1,500 gallon HOMOGENIZERS or VISCOLIZERS; 500, 750 and 1,000 lb. Receiving UNITS; Oakes & Burger Rotary Can WASHER, 6 C.P.M.; Straitaway Can WASHERS, 8 and 12 C.P.M.; 350 gallon Jensen Vertical Coil VAT; 3 ft. and 5 ft. Mojonnier Vacuum PANS; 6,900 lb. and 10,400 lb. King Zeero Ice BUILDERS; 3,200 gallon Stainless Steel Truck TANK. Many other desirable items. "Reconditioned" or "As Is"—send us your inquiries. Write to: LESTER KEHOE MACHINERY CORPORATION, 1 East 42nd Street, New York 17, New York. 6-M-57

FOR SALE: 42" x 120" American Double Roll DRYER; (2) 42" x 100" Buflovac Double Roll DRYERS; 1,850 gal., 2,800 gal., 3,600 gal., S.S. Truck TANKS on semi-trailers; 4,000 gal. S.S. insulated Holding TANK; 2,250 gal. S.S. Storage TANK with wood insulation, cheap; 1,000 gal., and 1,250 gal., S.S. HOTWELLS; C-B Superplate COOLER with 38 S.S. plates; CP Full Flow EXCHANGER with 75 S.S. plates in 3 sections; 36" and 72" Rogers S.S. Vacuum PANS; 48" Mojonnier S.S. Vacuum PAN; Ste-Vac SV-8 and SV-12 PREHEATERS; Peebles 14,000 lb./hr., PREHEATER; Henszey 30,000 lb./hr., PREHEATER; (5) all S.S. Cabinet COOLERS various sizes; HOMOGENIZERS from 200 to 1,000 G.P.H.; Sharpless 12,000 lb./hr., all S.S. SEPARATOR; 300 gal. S.S. in and out Pasteurizing VAT; (5) 10,000 lb. Cheese VATS with Agitators and Presses; 12 per min. Can WASHER with Weigh Tank, Drop Tank and Scale. Many other items. Write to: BEST EQUIPMENT COMPANY, 1737 Howard Street, Chicago 26, Illinois. AMbassador 2-1452. 6-M-57

EQUIPMENT FOR SALE

USED **BOTTLE WASHER**—Model H-2 Creamery Package Hydraulic, for Tall ½-Pint to Oblong ½-Gallon. Excellent condition. Used 17 months, replaced by larger machine. Rated 96 B.P.M. $7,250.00 F.O.B. Flint, Michigan. Write to: MICHIGAN DAIRY EQUIPMENT CORPORATION, 561 Tenth Street, Detroit 16, Michigan. 6-M-57

NEW LOW PRICES ON PLUNGER SEALS FOR your C. P. and M. G. HOMOGENIZER. Send for trial offer. Advise style and capacity of homogenizer. Write to: STUART W. JOHNSON & COMPANY, 611 Main Street, Lake Geneva, Wisconsin. 6-M-57

BOILERS: All sizes, new and used, for immediate shipment; let us know your requirements; boiler repair service. Write to: NELSON MACHINERY & BOILER COMPANY, Box 1275, Green Bay, Wisconsin. 6-M-57

650 gallon cold wall Storage TANK, S.S. interior, $2,000.00. Write to: MASON'S DAIRY, INC., Cumberland, Maryland. 6-M-57

USED RECEIVING EQUIPMENT—500 lb. SCALE; 500 lb. Weigh CAN; 750 lb. Drop TANK. $550.00 complete. Write to: HEDLIN DAIRY COMPANY, 5778 Northwest Highway, Chicago, Illinois. 6-M-57

Smith-Lee Canco FILLER; Creamery Package,—11 can No-Roll CHURN; Doering Butter PRINTER,—200 pound per hour; Friday 90 pound Butter Printer and 4—90 lb. Tubs. Write to: EAST END DAIRY, 944 Sheridan Street, Williamsport, Pennsylvania. 6-M-57

4,300 GALLON MILK TANKER: Heil plastic new, November 15, 1955, stainless steel inside, manhole and ladders, red plastic skirting with white plastic outer jacket. Homan air ride tandem brake 16½ x 20", 1,000 x 20" tires with very low mileage. This tank, new today, cost $15,783.00 excluding state taxes. Tank can be seen in Cincinnati, Ohio by contacting R. E. LINDNER. MElrose 1-3385. 6-M-57

Interested In Buying MILK STORAGE TANK. 3,000 to 4,000 gallons, Insulated. Good Condition. Advise Price. Write to: GREENES' INCORPORATED, 400 East Boundary, Augusta, Georgia. 6-M-57

WANTED TO BUY: USED CASES for square ½-pint, pint, quart, ½-gallon and gallon bottles —wood, wire or aluminum. Write to: Box 51. 6-M-57

Late Model Plate COOLER, 100 to 300 gallon. Cold Wall PROCESSOR for buttermilk. King Zeero Ice BUILDER. 6 or 8 Wide WASHER, ½-pints to quarts. Send complete details. Write to: ROBERD'S DAIRY, 2500 Tennessee Avenue, Savannah, Georgia. 6-M-57

LATE MODEL GOOD CONDITION: SOAKER WASHER, 8, 10, 12 Wide, half pint through half gallon. Cemac FILLER, Model 14 right hand. Stainless steel covered VAT or TANK 300 to 500 gallon capacity. Rotary can WASHER. Write to: Box 52. 6-M-57

"WANTED: Double Drum Roll DRYERS. Write to: MIDWEST DRIED MILK COMPANY, Dundee, Illinois. Phone HAzel 6-3411." 6-M-57

Need Help? Try a Classified Ad in "AMERICAN MILK REVIEW."

HELP WANTED

WANTED — Experienced Laboratory Technician to perform routine farm, control, fluid milk and milk product control. Large modern plant with well equipped laboratory. Top salary for qualified person. Apply—JOHANNA FARMS, Flemington, New Jersey. 6-M-57

MANUFACTURERS REPRESENTATIVES — Now calling on drugstores, fountains, restaurants, etc., to sell new patented self-measuring ice cream scoop, as profitable side item. Contact MODERN MACHINE COMPANY, INC., Staatsburg, New York. 6-M-57

"Sales and Application ENGINEER for Refrigeration and Dairy Machinery. Florida territory. Exceptional opportunity for right man. Write to: W. L. FILBERT, INC., 3401 N.W. 71st Street, Miami, Florida." 6-M-57

POSITION WANTED

"Energetic highly capable young Dairy Executive desires general management position with progressive firm. Dairy College Graduate, married with family, possesses strong national recognition. Seeking a challenge." Write to: Box 53. 6-M-57

REFRIGERATION EQUIPMENT SALESMAN, WITH PROVEN RECORD OF SALES TO DAIRIES IN NEW YORK METROPOLITAN AREA, DESIRES POSITION AS FACTORY REPRESENTATIVE OR DISTRIBUTOR (PREFERABLY IN NEW YORK METROPOLITAN AREA) FOR REFRIGERATION EQUIPMENT MANUFACTURER." Write to Box 54. 6-M-57

OFFICE MANAGER—6 years' experience in a dairy plant processing over 22 million pounds annually. Now in complete charge of all administrative and accounting functions of firm. Write to: Box 55. 6-M-57

SERVICES

NO NEED TO STOP PRODUCTION!!! Ceramic tile provides ideal working conditions and sure sanitation and cuts maintenance costs. We possess the know-how for installing ceramic and quarry tile while your plant is in operation. For further information and estimates call or write: THURNBAUER TILE, INC., 1925 West Hampton, Milwaukee, Wisconsin. LOcust 2-4290. 6-M-57

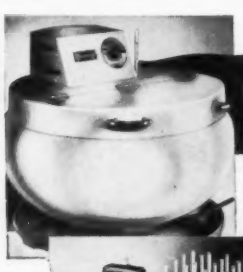
SANITARY VALVES—REBUILT WITH STAINLESS steel for a fraction of the cost of new. Write to: BADGER VALVE REBUILDING COMPANY, Withee, Wisconsin. 6-M-57

INSTRUMENT REPAIR!! Temperature regulators, mercurial indicating thermometers and recording thermometers of all makes repaired. Complete satisfaction guaranteed. Write to: STUART W. JOHNSON & COMPANY, 611 Main Street, Lake Geneva, Wisconsin. 6-M-57

REBUILD THOSE LEAKING VALVES!! SANITARY Valves rebuilt for a fraction of the cost of a new valve. Prices submitted on request. Write to: STUART W. JOHNSON & COMPANY, 611 Main Street, Lake Geneva, Wisconsin. 6-M-57

SALES PROMOTION

TRUCK LETTERING AND TRADEMARK DECALS made for your truck and store advertising. Easy to apply, uniform, distinctive, economical for large or small needs. Write to: MATHEWS COMPANY, 827 So. Harvey Avenue, Oak Park, Illinois. 6-M-57



Consistently Accurate!

GARVER

Milk & Cream Testing Equipment

Faulty testing equipment can turn profit into loss—fast. Insure now against inaccuracy with this efficient Garver combination.

1. Garver "Super" Babcock Tester. Speed controlled and speed indicated for extreme accuracy.

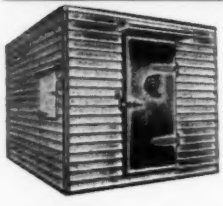
2. Garver "ovate action" Test Bottle Shaker. Thoroughly integrates test ingredients—saves time—eliminates dangerous, haphazard hand twirling.

Write today for catalog.

THE GARVER MANUFACTURING CO.
Union City, Indiana, U.S.A.

"Babcock Tester Manufacturers for Four Decades"

PORTABLE DAIRY STORAGE PLANT



For Lease or Sale
$1.35 Per Day
Also Available for Ice Cream
Expand Sales — Open New Accounts with ICS Cold Storage Units

- Cuts cost of delivery . . . dry ice
- Keeps milk better . . . longer
- Increases route man's selling time

ICS portable cold storage plants hold 300 cases and up. Fully Automatic . . . delivered complete . . . ready to run . . . plug it in for power.

INTERNATIONAL COLD STORAGE
2307 SOUTH OLIVER WICHITA, KANSAS

BUSINESS OPPORTUNITIES

FOR SALE: Milk Plant, some Ice Cream, and frozen food locker plant. Wholesale meats. Good business. Priced reasonable, same owner twenty-seven years. Want to retire. Write to: W. L. BROWN, SR., Thomaston, Georgia. 6-M-57

INFORMATION WANTED

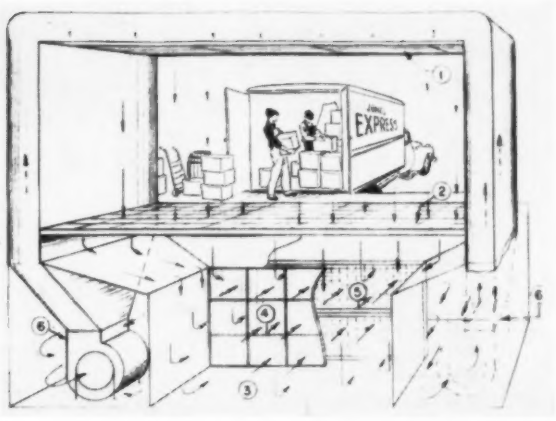
"WANTED—Information of the present whereabouts of OTTO AMBERG, formerly in the Cheese Trade in New York. Write to: RAY KAMP, 77 W. Washington Street, Chicago 2, Ill. 6-M-57

FOR RENT

MISCELLANEOUS: MILK TRANSPORTATION tanks for rent on lease basis. Write to: HENRY GALLAGHER, 329 East Diamond Avenue, Hazleton, Pennsylvania. 6-M-57

WANTED TO BUY

WANTED TO BUY: SKIM MILK IN TANK LOTS: year 'round supply or surplus deal. Write to: HENRY GALLAGHER, East Diamond Avenue, Hazleton, Pennsylvania. 6-M-57



1, outlet grille. 2, floor grating. 3, sump. 4, filter. 5, heater, cooler. 6, fans.

Only a Stream of Air Keeps Unwanted Weather Outside

AN INTRIGUING new European development which may have possibilities for use by the dairy industry has been introduced to the United States. Called the Doorless Door, the device acts to set up a steady curtain of air which the promoters say keeps out vagrant breezes, rain, snow, and the outside temperature, regardless of what the thermometer reads inside.

The most striking possible application in the milk business would be between the cold room and the loading platform.

Here is how it works: a slow moving, downward flow of air which forms the Doorless Door acts as an insulating wall. It protects the interior of the building from all outside weather conditions. A Swiss engineering development, the Doorless Door is operated by a series of overhead nozzles located in the ceiling grille through which a curved beam of air is sprayed, falling in layers outward and downward.

The air sucked through a floor grating that runs the full length of the entrance, is carried through a heating or cooling unit (depending on the season) after being filtered and cleaned. It is then moved through ducts to the ceiling and recirculated. The filters catch all dirt, dust, and grime and prevent them from entering the building. The small particles are collected in a pit under the suction grating from where they are periodically flushed away. The nozzles are adjustable and the velocity of the ducts can be changed manually or automatically to meet the variable weather conditions.

Sulzer Bros. of New York, creators of the Doorless Doors, say that the installation's costs run from $150 to $250 per square foot for new buildings. Add 15 percent for installation in existing buildings. Annual electrical costs for operation average 45 dollars. Folding doors or sliding doors replace the air curtain when it is not in use. When extensive alterations do not have to be made, a unit can be installed in approximately one week. This includes refrigeration, heating controls and power operation.

Sulzer Bros. maintain that a freer movement of patrons, personnel and delivery people is permitted by Doorless Door installations, resulting in the saving of time and money. Shipments to and from the building can be moved more rapidly.

AMERICAN MILK REVIEW
WANT ADS
BRING QUICK RESULTS!

When you advertise in the WANTS AND FOR SALE classified section of AMERICAN MILK REVIEW you reach the men who buy. AMR is the only national dairy publication that reaches the owners, managers and buying executives in all milk plants with three or more delivery routes. AMR's complete coverage "pays off" whether you want to buy or sell.

Deadline for Classified Advertising is the 20th of the month preceding publication. Full rate information will be found at the beginning of the WANTS AND FOR SALE Section in the back of the book.

AMERICAN MILK REVIEW
92 WARREN STREET
NEW YORK 7, N. Y.

your assurance of quality

Member Dairy Suppliers Foundation, Inc.
DSF
Independent Jobbers
Representing Independent Manufacturers
...to Better Serve the Dairy Industry

Buy with confidence from your local independent distributor displaying the famous DSF shield. He provides quick, economical, on-the-spot service for any dairy equipment or supply requirement. He offers you quality equipment . . . complete inventories . . . prompt, courteous service. Patronize the DSF member serving your area.

Phone AMbassador 2-4388

DAIRY SUPPLIERS' FOUNDATION, Inc.
1740 Greenleaf Ave., Chicago 26, Ill.

INDEX OF ADVERTISERS

	Page
A	
American Can Co.	29
American Dairy Association	12
American Dry Milk Institute	107
American Steel & Wire Division	53
B	
Baker Box Co.	65
Baldwin-Lima-Hamilton Corp.	41
Barker Equipment Co.	118
Blaw-Knox Co. (Dairy Equipment Div.)	46, 47
Bowey's, Inc.	7
Boyertown Auto Body Works, Inc.	73
C	
Central Cold Storage Co.	64
Centrico, Inc.	71
Cherry-Burrell Corp.	2
Chevrolet Motor Div. (General Motors Corp.)	75
Chocolate Products Co.	93
Chumlea's Laboratories	122
Columbia-Geneva Steel Division	53
Continental Oil Co.	15
Creamery Package Mfg. Co.	128
Crest Foods Co.	6
Crown Cork & Seal Co.	127
D	
Dairy Pak, Inc.	69
Dairy Suppliers Foundation, Inc.	125
De Laval Separator Co., The	10, 11
Diamond Alkali Co.	14
Doering & Son, C.	56
E	
Edlo, Inc.	40
E-Mac Dairy Brush Co.	96
Erickson Co., C. E.	3
Erie Crate & Mfg. Co.	62
Ex-Cell-O Corporation	4, 5
F	
Food Equipment & Specialties Co.	92
Forbes Company, The Benjamin P.	17
Ford Motor Co.	30, 31
Fort Wayne Dairy Equipment Co.	54
Foster-Built Bunkers	97
G	
Garver Mfg. Co., The	124
General Electric Co. (Appliance Div.)	60, 61
G & H Products	94
Girton Mfg. Co.	55
Gulf Oil Corporation	45
Gundlach Co., G. P.	120
H	
Hackney Bros. Body Co.	23
Hansen's Laboratory, Chr.	92
Haynes Manufacturing Co., The	27, 64, 101, 107, 121
I	
International Cold Storage	124
J	
Jennings & Co.	20
K	
Kari-Kold Co.	123
Kendall-Lamar Corporation	59
Kent Industries, Inc.	117
K	
King Zeero Co.	115
Kraft Foods Co.	33
KVP Co.	123
L	
Liberty Glass Co.	57
Lumenite Electronic Co.	101
M	
Manton-Gaulin Mfg. Co.	81
Mayfair Products	122
Mid-West Bottle Cap Co.	98
Milk Bottle Crate Co.	49
Mohawk Cabinet Co., Inc.	9
Muckle Mfg. Co.	68
Mueller Co., Paul	63
Murphy Body Works, Inc.	119
N	
National Tube Division	53
Norris Dispensers, Inc.	90, 91
O	
Olin Mathieson Chemical Corp.	111
Owens-Illinois Glass Co.	19
P	
Paperlynen Co.	108
Penn-Michigan Mfg. Corp.	108
Pennsylvania Salt Mfg. Co.	76, 77
Pfaudler Co., The	89
Portersville Stainless Equipment Corp.	102
Pure-Pak Division, Ex-Cell-O Corporation	4, 5
Purity Pack Corp.	16
Q	
Quirk Mfg. Co.	87
S	
Saucier & Sons, Chas.	88
Sealright Co., Inc.	42, 43
Semet-Solvay Petrochemical Div. (Allied Chemical Dye Corp.)	67
Sharples Corporation, The	79
Smith-Lee Co., The	85
Solar Permanent Co. (Division U. S. Industries, Inc.)	72
Solvay Process Div. (Allied Chemical & Dye Corp.)	103
Sparta Brush Co., Inc.	100
Strahman Valves, Inc.	18
Superior Combustion Industries, Inc.	117
T	
Tennessee Coal & Iron Division	53
Thatcher Glass Mfg. Co., The	39
Thermo King	83
Thomsen & Sons, L. C.	121
Toledo Scale Co.	99
Tranter Mfg., Inc.	112, 113
U	
United States Steel Corp.	53
United States Steel Export Co.	53
United States Steel Supply Division	53
United Steel & Wire Co.	106
W	
Want Ads	122, 123, 124, 125
Waukesha Foundry	109
Wilson Refrigeration, Inc.	13
Wood Co., John, Superior Metalware Division	35
Wyandotte Chemical Co.	8

897
B

XUM

view
XUM